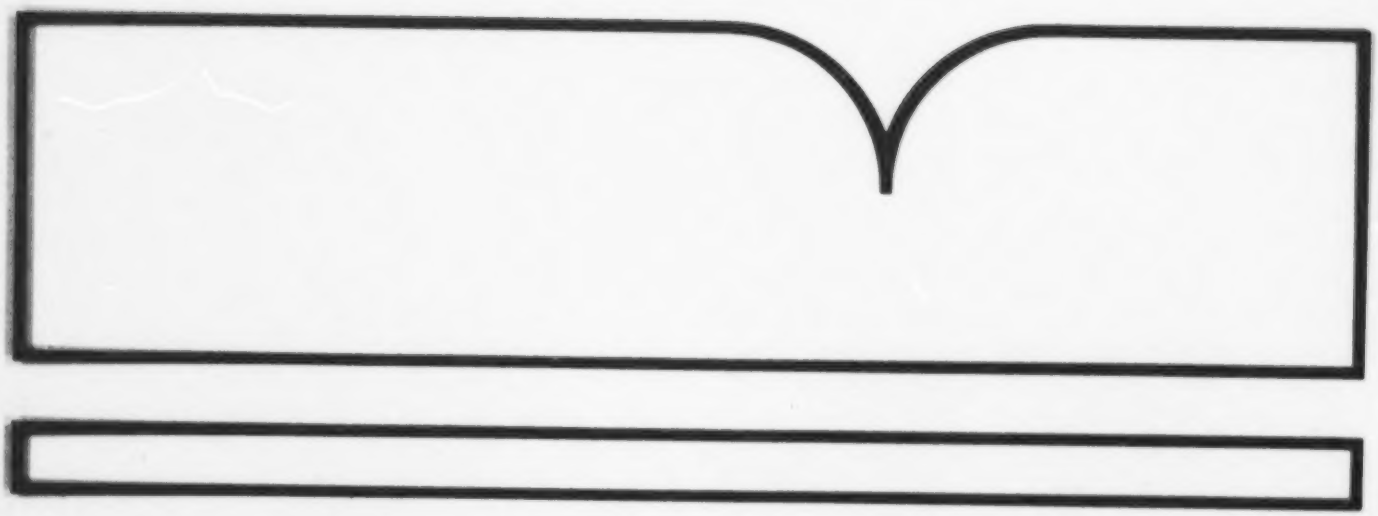
PB87-190062

Superfund Record of Decision (EPA Region 5)
Byron Johnson Salvage Yard
Byron, Illinois, September 1986

(U.S.) Environmental Protection Agency
Washington, DC

23 Sep 86



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United States
Environmental Protection
Agency

Office of
Emergency and
Remedial Response

EPA/ROD/R05-86/042
September 1986

EPA

Superfund Record of Decision:

Byron Johnson Salvage Yard, IL

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15. SUPPLEMENTARY NOTES	

16. ABSTRACT

The Byron Johnson Salvage Yard is an approximately 20-acre wooded parcel located in Ogle County, Illinois. General rubble and domestic refuse, along with industrial wastes including drums and plating materials, are scattered about this presently inactive site. During the 1960s and early 1970s, the yard operated as a salvage yard and unpermitted landfill. A March 1985 Record of Decision (ROD) implemented a remedial action consisting of excavation and removal of containerized waste and contaminated soil, and onsite treatment of soil containing excessive levels of cyanide. Ground water under and downgradient from the site is contaminated with heavy metals, cyanide and VOCs, including TCE and PCE. Because the material within the Salvage Yard has not yet been removed, wastes still present, both on the surface and buried, act as an ongoing source for ground water contamination.

The selected remedy for this second operable unit includes: installation of whole house carbon filtration systems in affected year-round residences to provide an interim alternate water supply; provision of an interim alternate water supply to residents occupying seasonal (summer-use) homes through distribution of bottled water; ongoing sampling and monitoring program to evaluate the effectiveness and lifetime of the carbon filters; installation of replacement filters after breakthrough occurrence; and disposal of spent filters in accordance with provisions of the Resource Conservation and Recovery
(See Attached Sheet)

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
Record of Decision Byron Johnson Salvage Yard, IL (Second Remedial Action) Contaminated Media: gw Key contaminants: VOCs, TCE, PCE, cyanide, heavy metals		

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EPA/ROD/R05-86/042
Byron Johnson Salvage Yard, IL
(Second Remedial Action)

16. ABSTRACT (continued)

Act of 1976, as amended. The IEPA has advocated the selection of the water line alternative and not the selected remedy even though the U.S. EPA considered the water line remedy to be inconsistent with the final ground water remediation program. Because of the State's commitment to provide a permanent water supply, implementation of the ROD recommended alternative is not required to alleviate the current health threat and will not be funded unless the State of Illinois agrees to assume O&M costs and the 10 percent funds match. The estimated capital cost for this remedy is $115,500 with annual O&M estimated to be $165,350.

from Ken Wallace R3's V

Record of Decision
Remedial Alternative Selection

SITE Byron Johnson Salvage Yard, Byron, Illinois

DOCUMENTS REVIEWED

The following documents which describe the various remedial alternatives and analyze their cost-effectiveness have been reviewed by the United States Environmental Protection Agency (U.S. EPA) and form the basis for this Record of Decision:

- Phased Feasibility Study for Byron Johnson Salvage Yard, June 1986
- Summary of the Remedial Alternative Selection, September 1986
- Community Relations Responsiveness Summary, September 1986
- Record of Decision, State of Illinois, July 1986

DESCRIPTION OF SELECTED REMEDY

The selected remedy consists of the following major components:

- Installation of whole house carbon filtration systems in affected year-round residences to provide an interim alternate water supply
- Provision of an interim alternate water supply to residents occupying seasonal (summer-use) homes through distribution of bottled water
- Ongoing sampling and monitoring program to evaluate the effectiveness and lifetime of the carbon filters
- Installation of replacement filters after breakthrough occurrence
- Disposal of spent filters in accordance with provisions of the Resource Conservation and Recovery Act of 1976, as amended

COST

The estimated cost of the above actions will not exceed a present worth cost of $338,900 over a 5-year projected lifetime, as itemized in the attached Summary of Remedial Alternative Selection.

DECLARATION

Consistent with the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) 43 U.S.C. §9601 et seq., and the National Contingency Plan (NCP) (40 CFR Part 300 et seq., 50 Federal Register, November 20, 1985), I have determined that installation of carbon filtration systems, with bottled water provision, in affected residences is a cost-effective remedy and provides adequate protection of public health, welfare, and the environment.

I have also determined that the actions described herein are cost-effective, when compared to other remedial actions reviewed in accordance with the NCP, and are appropriate when balanced against the availability of Trust Fund monies.

The State of Illinois has been consulted and disagrees with the approved remedial action. The action, approved by this Record of Decision, would require future operation and maintenance (O&M) activities which would be funded by, and the responsibility of, the State of Illinois. The Illinois Environmental Protection Agency (IEPA) will not accept liability for the O&M required by this remedial action, and has refused to enter into a cooperative agreement or provide the required 10 percent match for this action. The IEPA has recommended that a municipal water supply be provided to affected residents. U.S. EPA considers this action a permanent solution which may be inconsistent with the final groundwater remedy. A Record of Decision obligating $920,000 in State funds has been signed by the IEPA Director to implement the permanent water supply alternative. Because of the State of Illinois' committment to provide a municipal water supply within 1 year to the citizens affected by this Record of Decision, it is not required that U.S. EPA obligate funds to provide an interim water supply at this time.

9/23/86
Date

Valdas V. Adamkus
Regional Administrator

Summary of Remedial Alternative Selection
Byron Johnson Salvage Yard, Byron, Illinois

SITE LOCATION AND DESCRIPTION

The Byron Johnson Salvage Yard is an approximately 20 acre wooded parcel located in Ogle County, about 4 miles southwest of Byron, Illinois, and 12 miles southwest of Rockford, Illinois. Rock River Terrace, an unincorporated community consisting of approximately 110 residences, is about 1 mile northwest of the site (Figure 1). General rubble and domestic refuse, along with industrial wastes including drums and plating materials, are scattered about the site. The site is presently inactive and the residence on the property is unoccupied.

The site is situated in a rural, primarily agricultural area. The acreage is within the Woodland Creek drainage basin and consists of mostly uplands dissected by several small ravines trending north and northeast. These ravines feed into Woodland Creek, which in turn is an intermittant tributary of the Rock River. Surface elevations vary between 740 and 860 feet above mean sea level.

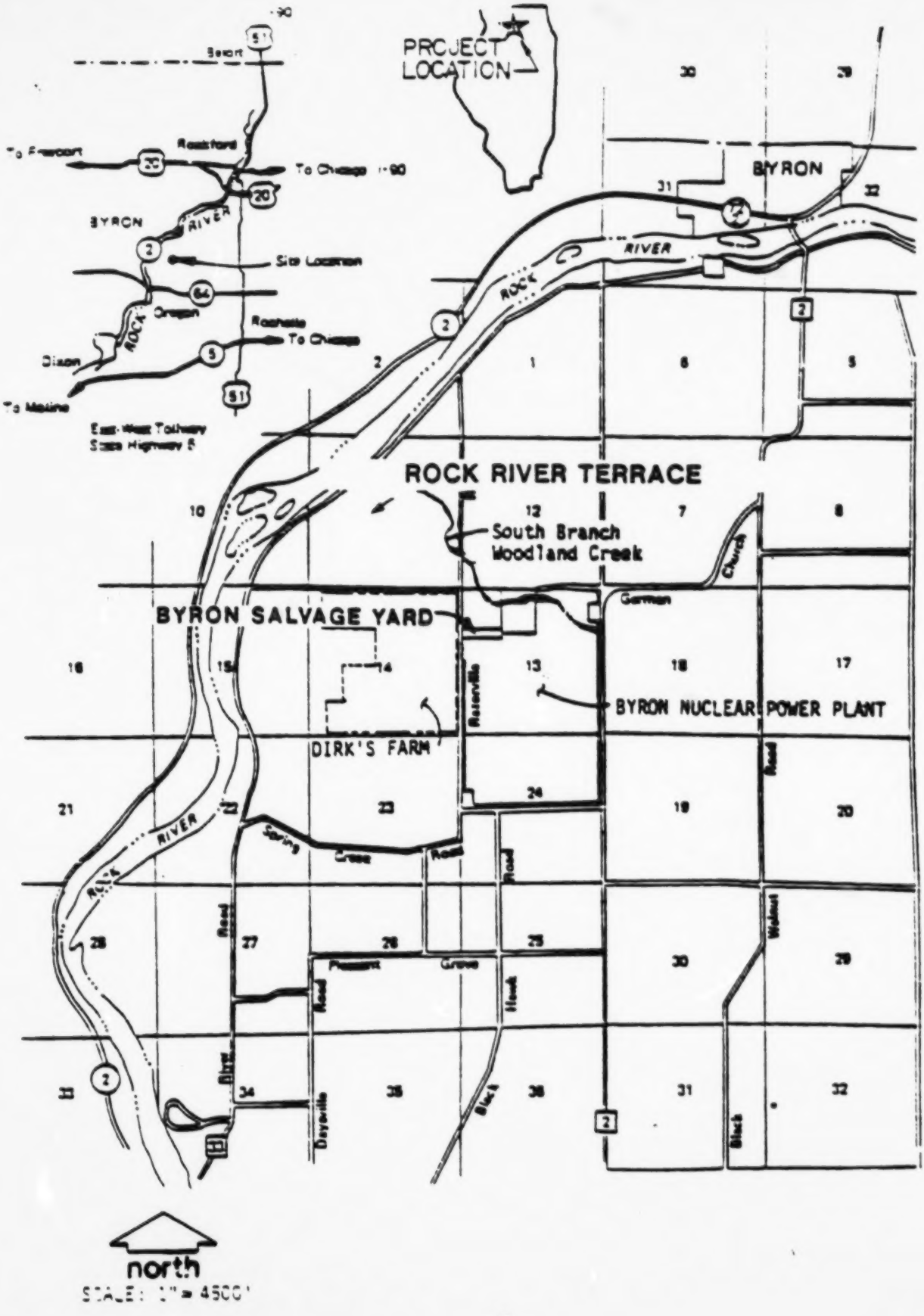
The Byron nuclear power plant is situated to the immediate southeast of the site and much of the property surrounding the Salvage Yard is owned by Commonwealth Edison Company (CEC). The property directly south of the Salvage Yard is owned by Amos Blanchard, and land adjoining the Salvage Yard to the east is a motorsport park owned by Joe Vincer. Other properties, including the Forest Preserve District north of the Salvage Yard, are owned by CEC.

GEOLOGY

Unconsolidated Pleistocene deposits composed of glacial, fluvio-glacial and alluvial sands and sandy gravels, generally less than thirty feet thick, rest upon either dolomite or sandstone bedrock. Alluvial cover is varied but generally increases in thickness in stream valleys and down stream toward Rock River. These deposits are a permeable mixture of sand and gravel which contain ground water at shallow depths, especially near the Rock River.

Two bedrock formations are of primary interest because they comprise the principle drinking water aquifers in the study area. These are the upper aquifer Galena-Platteville Group dolomite and the lower aquifer St. Peter Formation sandstone, both of Ordovician age. They are separated in some areas by the Harmony Hill member of the Glenwood Formation, a thin, non-continuous shale which may act as an aquitard when present.

The Galena-Platteville dolomite is susceptible to solutional weathering, and in stream channels or along joint-controlled lineations the rock may be heavily fractured and vuggy. Secondary features increase the permeability of the dolomite so that localized ground water flow is joint or


PROJECT LOCATION
BYRON
RIVER
ROCK
ROCK RIVER TERRACE
South Branch
Woodland Creek
BYRON SALVAGE YARD
BYRON NUCLEAR POWER PLANT
DIRK'S FARM
Spring Creek
Site Location
Rockford
To Chicago
Dixon
To Moline
north
SCALE: 1" = 4500'

fracture controlled. Joints and fractures also provide conduits for contaminant transport. Surface water flow appears to be preferentially controlled by joint orientations. The Galena-Platteville outcrops in some lower stream valleys and channel cuts.

The St. Peter sandstone underlies the Galena-Platteville dolomite and may be separated from it by the Harmony Hill shale. This sandstone is the major aquifer within the region; it supplies most of the municipalities and industries, although the Galena-Platteville is probably more widely used by residential wells in the study area. The St. Peter does not outcrop in the study area but is a fine to medium grained, poorly sorted quartz sandstone, with a thickness of 100 to 200 feet.

SITE HISTORY

The Byron Johnson Salvage Yard, formerly called the Johnson Salvage Yard, operated during the 1960's and early 1970's as a salvage yard and unpermitted landfill. Wilford Johnson purchased the property in the mid-1960's and used 10 acres for a salvage yard/dump and leased the rest for motorcycle racing.

In 1970, the Illinois Environmental Protection Agency (IEPA) began investigating the site and another dump area across Razorville Road on the Dirk Farm (presently owned by CEC) as part of its campaign to close and cover illegal dumps. Johnson followed IEPA instructions to cover the Byron Johnson Salvage Yard but he also allegedly continued to accept and dump barrels of liquid wastes.

In 1974, cattle were found dead on the former Dirk Farm property, attributed to cyanide poisoning incurred by drinking from a nearby stream. Shortly afterward, an Illinois Department of Public Health (IDPH) investigation found dangerous levels of mercury and lead in 30 private water wells in the area, 23 of which were used for drinking water. Residents were advised not to drink the contaminated water.

Subsequently, the CEC retained Dames and Moore (DM), a consulting firm, to determine the extent of contamination and to recommend remedial actions to remove industrial wastes and soils contaminated with heavy metals and cyanides from the Dirk Farm. DM's study indicated that drums containing lethal concentrations of cyanide, arsenic, cadmium, chromium and other heavy metals may have been dumped and/or buried in containers on and adjacent to the Dirk Farm. The report also noted that materials found on Dirk's Farm were similar to materials found on the Byron Johnson Salvage Yard.

Dames and Moore also inspected areas around the Salvage Yard and identified a gully adjacent to the Salvage Yard as a major contaminant source. This gully drained into Woodland Creek, which contained excessive concentrations of cyanide and other toxic chemicals. Additionally, it was reported by CDM that plating wastes containing cyanides were sprayed onto Razorville Road and roads in and around the Byron Salvage Yard as a dust inhibitor. Liquid cyanide wastes and barrels were allegedly dumped into ravines on the north and east parts of the yard.

In December of 1982 the Byron Johnson Salvage Yard was placed on the National Priorities List. In 1983 a State-lead cooperative agreement was signed, and IEPA contracted with D'Appolonia to conduct a Remedial Investigation/Feasibility Study (RI/FS). A Record of Decision (ROD) was signed in March 1985, to implement a remedial action consisting of excavation and removal of containerized waste and contaminated soil, and on-site treatment of soil containing excessive levels of cyanide.

Ground water sampling in areas around the Salvage Yard revealed high concentrations (up to 710 parts per billion) of trichloroethylene (TCE) in some drinking water wells. In July 1984, residents of ten homes were placed on a U.S. EPA funded bottled water program under an immediate removal action. The source of the TCE has not been confirmed, but most of the affected residents are northwest of the salvage yard, hydrologically downgradient from the site. Because of the probable ground water contamination emanating from the site, a Fund-lead supplemental RI/FS was contracted to Camp Dresser & McKee (CDM) and initiated in June 1985. The purpose of the RI/FS is to detect and evaluate ground water contamination emanating from the Salvage Yard, and to recommend aquifer remediation measures. This supplemental RI/FS is expected to be completed by March 1987. Also in June 1985, a fence was erected around the Salvage Yard under an immediate removal action.

Because of the potential for ground water contamination further downgradient from the Salvage Yard, the U.S. EPA conducted a sampling of private drinking water wells in the Rock River Terrace community in July 1985. Results from this first sampling effort indicated that some wells were contaminated with concentrations of TCE as high as 48 parts per billion (ppb). The sampling effort was expanded with assistance from IEPA and IDPH, and subsequent analyses showed that approximately half of the tested wells had excessive levels (>2.8 ppb) of TCE and other related volatile organic chemicals. A Phased Feasibility Study (PFS) was begun to address the drinking water contamination in September 1985. The PFS was initiated as a fast-track operable unit to evaluate the public health risks created by the ground water contamination in an area bordered by Spring Creek Road on the south, Razorville Road on the east, and the Rock River on the north and west (see Figure 1). The purpose of the PFS was to recommend an interim water supply for all potentially affected residents within this geographic area. This interim remedy should provide a reliable, environmentally safe water alternative until implementation and completion of the final, permanent ground water remediation alternative to be recommended by the RI/FS currently in progress.

In May 1986, U.S. EPA purchased and installed whole-house carbon filtration systems in nine of the ten residences previously receiving bottled water because of TCE concentrations. (The 10th home is presently unoccupied and has no internal plumbing fixtures to accomodate carbon filters). These filters were installed to alleviate the inconvenience of bottled water and to provide protection against contaminant exposure due to inhalation and/or skin absorption.

CURRENT SITE STATUS

The approximately 20 acre site is presently inactive. General rubble and domestic refuse such as refrigerators, old cars and car parts are scattered throughout the site. Interspersed are collections of waste drums and plating materials such as buffing wheels. According to D'Appolonia's June 1984 report, there are 504 surface drums and an estimated 11,400 buried drums. Contaminants found in some of the surface drums are lead, arsenic, cyanide, halogenated organics and low level PCBs. Some surface drums are considered RCRA ignitable according to the closed-cup flash test. The estimate of excessively contaminated soil slated for removal is approximately 3,600 cubic yards. Soils are contaminated with lead, nickel, zinc, cyanide and organic halogens. IEPA has announced that the source removal approved by the March 1985, Record of Decision will be conducted before the end of calendar year 1986. Bids are currently being solicited and IEPA expects construction to begin in October 1986.

Ground water under the site and, to some extent, down-gradient is contaminated with heavy metals, cyanide and volatile organics. Because the material within the Salvage Yard has not yet been removed, wastes still present, both on the surface and buried, act as an ongoing source for ground water contamination. The underlying Galena-Platteville is the receptor aquifer for the mobile volatile organic contaminants and because of it's highly fractured nature provides an easy pathway to the lower St Peter sandstone aquifer. Even relatively immobile contaminants such as heavy metals have been found in high concentrations in monitoring wells on-site. Contaminant loading is predicted to continue until a source removal is accomplished.

TCE contamination at a level as high as 710 ppb has been found in a residential well on Razorville Road near the Salvage Yard. All residences on Acorn and Razorville Roads with wells containing TCE at concentrations greater than 200 ppb have received whole-house carbon filtration systems as a temporary remedy. The supplemental RI/FS addressing ground water contamination is nearing completion of the RI phase, but additional investigative work may be required on the Dirk's Farm property.

ENFORCEMENT STATUS (See Attachment 1)

PUBLIC HEALTH THREAT

Some private wells in the vicinity of Rock River Terrace have been found to contain one or more of five different volatile organic compounds (VOCs). Four of the five compounds, including trichloroethylene (TCE), 1,1,1-trichloroethane (1,1,1-TCA), tetrachloroethylene (PCE), and carbon tetrachloride (TETRA), have been identified as suspected human carcinogens. The fifth compound, 1,2-dichloroethylene (1,2-DCE), is not a suspected carcinogen. The maximum concentration found in the Rock River Terrace of any one contaminant was 48 ppb of TCE. TCE was found most frequently and

at the highest concentrations. A Public Health Assessment (PHA) was prepared for the PFS to evaluate health risks associated with consumption of water from Rock River Terrace wells.

The PHA evaluated risks associated with three different exposure periods: (1) A 1 to 2-year period required to complete the IEPA source removal and the U.S. EPA ground water RI/FS. (2) An indefinite or lifetime ingestion period and (3) A ten-year exposure period. The latter (10-year) period was chosen because it is considered possible the residents in the Rock River Terrace area have been exposed to TCE and other isomers since 1974. During that year, a sampling effort identified cyanide in wells near Rock River Terrace, and although VOCs were not analyzed for, they may have been present. VOCs are as or more mobile than cyanide and, assuming a common source such as the Byron Salvage Yard, they may have been transported in a similar fashion away from the site. Therefore it was assumed for the purpose of the PHA that ground water in this area has been contaminated in the past at the same levels currently seen, and that these concentrations will persist in the near future.

The U.S. EPA Cancer Assessment Group (CAG) has established cancer risk levels for the suspected carcinogens found in Rock River Terrace wells. The 1×10^{-6} cancer risk level is the estimated contaminant concentration in drinking water which would result in one additional incident of cancer per one million people. This estimation is based on a lifetime exposure of 2 liters per day ingestion over a period of 70 years. U.S. EPA considers drinking water to be acceptable for consumption if it does not exceed the 10^{-6} cancer risk level.

Table 1 illustrates the criteria used to assess public health risk in the Rock River Terrace area. Because concentrations of TCE exceed the 10^{-6} cancer risk level in many of the wells sampled in the study area there is an established public health threat. There is also a potential health threat to those residents whose wells were not tested because they may have concentrations which meet or even exceed the values found in the sampled wells.

Table 2 expresses the results of calculations used to determine cumulative cancer risks in the study area created by the ingestion of water contaminated with maximum and minimum concentrations over 1 to 2 year, 10 year, and lifetime exposures. These results indicate that there is an excess (greater than 10^{-6}) cancer risk associated with both lifetime and 10 year exposures. However, the shorter term, 1 to 2 year exposure period does not create an unacceptable risk. Long-term ingestion of water contaminated with chlorinated organics at concentrations found in Rock River Terrace samples clearly creates an unacceptable health risk. This health assessment is based on ingestion modeling alone and does not take into account the potentially greater cumulative exposure risks posed by inhalation and skin absorption processes combined with ingestion.

TABLE 1

SUGGESTED CRITERIA FOR PROTECTION OF HUMAN HEALTH USED IN THE BYRON JOHNSON SALVAGE YARD PHASED FEASIBILITY STUDY
(All concentrations in ppb)

Contaminant	2 years	10 years	Lifetime	High Concentration Found in Rock River Terrace
Trichloroethylene (TCE)	98	19.6	2.8	48
Carbon Tetrachloride (TETRA)	10.5	2.1	0.4	0.3
1,1,1-Trichloroethane (1,1,1-TCA)	---	----	21.7	3.2
Tetrachloroethylene (PCE)	24.5	4.9	1.0	0.9

This table illustrates those drinking water concentrations associated with a projected upper 95% confidence limit excess cancer risk of 10^{-6}. In other words, these are the values determined to be the minimum concentrations necessary to cause one excess cancer per one million ingestors. The suggested 2 and 10 year "criteria" for carcinogenic effects presented in this table have not been developed by U.S. EPA but have been calculated by Clement Associates, Inc., using procedures recommended by U.S. EPA, in the Phased Feasibility Study in order to give an indication of the relative risk associated with exposure for less than a full lifetime. For a detailed explanation see the Public Health Assessment, Appendix 1 of the Phased Feasibility Study for the Byron Johnson Salvage Yard, June 1986.

TABLE 2

*TOTAL CANCER RISK ASSOCIATED WITH INGESTION OF GROUND WATER CONTAMINATED WITH TRICHLOROETHYLENE, TETRACHLOROETHYLENE, AND CARBON TETRACHLORIDE FOR VARIOUS EXPOSURE PERIODS

Concentration in Ground Water	Risk Associated with 1-2 year Ingestion	Risk Associated with 10 year Ingestion	Risk Associated with Lifetime Ingestion
Maximum Reported Cumulative Concentrations	6×10^{-7}	2×10^{-6}	2×10^{-5}
Minimum Reported Cumulative Concentrations	5×10^{-8}	3×10^{-7}	2×10^{-6}

*Cumulative doses received over 2 or 10 year exposures were expressed as average daily exposures prorated over a 70-year lifetime, and the corresponding lifetime risks were calculated accordingly. The suggested 2 and 10 year "criteria" for carcinogenic effects presented in this table have not been developed by U.S. EPA but have been calculated by Clement Associates, Inc., using procedures recommended by U.S. EPA, in the Phased Feasibility Study in order to give an indication of the relative risk associated with exposure for less than a full lifetime. For more information, refer to the Public Health Assessment, Appendix 1 of the Phased Feasibility for the Byron Johnson Salvage Yard, June 1986.

U.S. EPA RESPONSE OBJECTIVES

The Phased Feasibility Study was conducted to evaluate the public health impact associated with exposure to contaminants found in private drinking water wells in the area of the Rock River Terrace subdivision, and to identify and evaluate alternative water supplies which could be provided to the affected population. The response objectives to be met by the operable unit remedial action proposed by this ROD for the Byron Johnson Salvage Yard site are:

1. Provide a source of drinking water which meets appropriate Federal drinking water criteria to those residents who have excessive levels of TCE present in their private wells.

2. Provide a source of drinking water which meets appropriate Federal drinking water criteria to those residents residing hydrologically down-gradient from the Byron Johnson Salvage Yard who do not at the present time have contaminated private wells but are potential future receptors.

3. If possible, to provide a remedy which will lower the overall costs and/or inconvenience to those residents residing on Acorn and Razorville Roads who currently have carbon filtration systems installed on their plumbing systems.

4. Provide an interim water supply alternative to all affected and potentially affected residents which will be consistent with final remedial actions arising from the ground water RI/FS.

5. Implement an interim remedy designed to provide a reliable, environmentally safe water supply until implementation and completion of the final, permanent ground water remedial alternative.

To meet these five response objectives a variety of remedial alternatives were investigated as part of an initial screening. These alternatives have been developed in accordance with the relevant guidance provided in 40 CFR Part 300.68(f)(ii) & (iii). No-action alternative has been evaluated in accordance with Section (v). Alternatives remaining after the initial screening were subjected to a more rigorous evaluation. The initial screening and detailed evaluation processes are consistent with 40 CFR Part 300.68 (g), (h), and (j).

ALTERNATIVES ANALYSIS

A number of remedial alternatives were addressed as part of an initial evaluation. The preliminary screening process used to isolate alternatives needing a more thorough investigation is outlined in Table 3. This chart lists the seven alternative technologies considered and the criteria used for screening processes. Each technology is given a relative rating as to it's ability to fullfill the particular screening criteria. Additionally, a seventh criterion is added, 'Time to Implementation.' This criterion is considered critical to the evaluation based on

TABLE 3

Alternative	Ability to Protect Public Health	Relative Initial Cost	Relative O & M Cost	Relative Complexity	Time to Implement	Community Impact	Ability to Meet Demand
No Action	Poor	None	None	Low	0 Years	High	None
Pump and Treat Surface Water, Rock River	Fair-Good	High	High	High	2-3 Years	Moderate	High
Develop an Alternative Ground Water Supply	Good	High	High	High	2-3 Years	Moderate	High
Connection to an Existing City System	Good	High	Low	Low	1-2 Years	Moderate	High
Bottled Water	Fair-Good	None	Moderate	Low	0 Years	Moderate	High
Residential Treatment Units	Good	Low	Moderate	Low	4 Months	Low	High
Installation of Interceptor Wells	Good	High	High	High	1-? Years	Low	High

the objectives of the project; i.e., to implement an interim remedy until a final, permanent ground water remediation recommendation is made. A brief discussion of the seven initial alternatives follows the table.

1. NO-ACTION ALTERNATIVE - The no-action alternative would require continued use of residential supply wells in Rock River Terrace and the surrounding area. The source removal remedial action planned for the Byron Johnson Salvage Yard has not yet begun and it is presumed that source materials are still contaminating the aquifers. Although little information is available regarding contaminant migration pathways between the Byron Johnson Salvage Yard and the Rock River Terrace, it is estimated that positive effects of the source removal would not be evident in the Rock River Terrace area until approximately three years after remedial action completion. Because TCE levels in some wells in the Rock River Terrace area are greater than the 10^{-6} lifetime ingestion value of 2.8 ppb, the no-action alternative is considered an unacceptable long-term solution. However, no-action may be an acceptable short-term remedial measure based on the results presented in the risk analysis. The no-action alternative is considered through the detailed evaluation as required by the National Contingency Plan.

2. PUMP AND TREAT SURFACE WATER FROM THE ROCK RIVER - The Rock River flows by Rock River Terrace and could potentially serve as an alternate water supply for the subdivision and the surrounding area. The river appears to have sufficient capacity to meet water supply requirements of the area in question. Storage facilities could be constructed if necessary to ensure capacity during drought flow conditions. Water quality considerations pose a significant problem with this alternative. Several parameters are likely to exceed maximum contaminant levels specified in the Safe Drinking Water Act; suspended solids levels are high, and there is evidence of fecal contamination. A sophisticated water treatment facility would be required to remove contaminants already present in the Rock River before the water could be supplied to consumers. Additionally, extensive studies would be required to define the concentrations of potential contaminants for which there is no available data. Implementation of this alternative would require an extended amount of time. Prior to design and construction of a treatment plant it would be necessary to complete treatability studies and acquire property titles and easements. It is predicted that a complex physicochemical treatment system would be required to ensure adequate public health protection. Such a system would probably be costly to operate and maintain. Due to the extended implementation time and high initial and operating costs, this alternative was eliminated from further consideration as an operable unit remedial action.

3. DEVELOP AN ALTERNATIVE GROUND WATER SUPPLY - It is possible that an alternate water supply could be developed for residential usage in the Rock River Terrace area. This alternate supply would ideally emanate

from a lower, as yet uncontaminated, aquifer or from an upper aquifer in an area not yet contaminated. There is presently available little of the data necessary to evaluate this alternative. Detailed studies would be required to investigate the feasibility of constructing a new community water supply. Information regarding aquifer yields, ground water quality, geologic conditions and treatment requirements would have to be collected and evaluated prior to design. An extended amount of time would be required to complete hydrogeologic studies, acquire titles and easements, perform treatment studies, and design and construct a community water supply well, storage facilities, treatment facilities and a distribution system. Because of the long implementation time, high costs, and implementation uncertainties, this alternative was eliminated from further consideration as an operable unit remedial action.

4. CONNECTION TO AN EXISTING CITY SYSTEM - The nearest municipal water supply to the Rock River Terrace area is located in the City of Byron approximately 3 miles away. The Byron system is composed of three wells finished in deep sandstone at depths ranging from 670 to 2,000 feet. The current average water usage or pumping rate for the Byron supply is 455,000 gallons per day (gpd); municipal officials estimate a system capacity of 2,600,000 gpd. The water is treated by chlorination and fluoridation prior to distribution. The Byron system appears to have sufficient capacity to meet the needs of the residents of the Rock River Terrace area. Connection to an existing water supply would provide protection from further contaminant migration regardless of concentration and type. Implementation of this alternative would result in some external inconvenience to residents during construction but there would be very little internal inconvenience because existing household plumbing fixtures can be used. This alternative would take approximately 1 to 2 years to implement. Sufficient lead time would be required to allow for preparation of contract documents, followed by bidding and construction. Finally, this alternative may be considered a long-term solution to the residential use water supply in the area of the Rock River Terrace because it is anticipated that once installed the system would not be removed, regardless of the quality of water in the aquifers. Based on the considerations stated above, this alternative was advanced for further detailed consideration.

5. BOTTLED WATER - This alternative would provide bottled water to all residents in the affected area. Bottled water would provide a safe drinking water supply. This alternative is easy to implement. There are no capital expenditures, merely an implementation of an operation and maintenance procedure whereby shipments of bottled water would be transported to residences. Bottled water would cause some inconvenience to the resident because of the use of separate drinking water, frequent water deliveries and bottled water storage. Additionally, bottled water would only protect the user from contaminant reception through ingestion; it offers no protection from skin absorption and/or inhalation exposure. Because of the ease of implementation and the relatively low associated expenditures this alternative was advanced for a more detailed evaluation.

6. RESIDENTIAL TREATMENT UNITS - Carbon filter units, installed within the residence, can be used to remove volatile organic contaminants from the water. These units may be either relatively large, whole-house carbon filtration systems which treat all of the water entering the household, or smaller, in-line units which treat water at an individual high use tap. Whole-house units would be more protective of human health because all of the water entering the household would be treated and there would be no concern of exposure through inhalation or skin absorption. This alternative has a relatively low initial capital expenditure and could be implemented rapidly due to the simplicity of design and ease of installation. A monitoring program would need to be initiated under this alternative because the carbon filters have a finite lifetime. Monitoring would consist of analyzing untreated and treated water at a representative sampling of households to assure carbon effectiveness. Once the carbon media is spent, replacement filters would need to be installed and used carbon disposed of. Because of the proven ability to protect human health, and low implementation costs, this alternative was carried forward for further evaluation.

7. INSTALLATION OF INTERCEPTOR WELLS - Interceptor wells installed between the suspected source of ground water contamination and the affected residences would interrupt the flow of contaminants. The intercepted ground water would be treated until free of contamination and then discharged either onto the surface or injected back into the aquifer(s). This alternative could be very protective of human health, but in order to provide an immediate solution to already affected residences, the wells would need to be placed near the homes. Because existing data on ground water movement in the area is not complete, aquifer tests would be required, thus increasing the implementation time. Capital and operation and maintenance costs are predicted to be high for this alternative. Additionally, installing purging wells away from the source may actually increase contaminant loading from the site into the aquifer since the source material is still present on the surface and in the soils. Because of the high costs and uncertainties associated with this alternative, it was eliminated from further consideration as a viable operable unit remedial action.

DETAILED EVALUATION OF REMAINING ALTERNATIVES

Seven initial remedial alternatives were evaluated to determine their ability to protect public health, relative initial cost, relative operation and maintenance cost, relative complexity, time to implementation, community impact and ability to meet user demand. Three of the seven alternatives (connection to an existing municipal system, bottled water and residential treatment units) were found to represent viable alternatives worthy of further consideration and a fourth, no action, was carried forward for detailed evaluation in accordance with the NCP.

Because of the uncertainties inherent in selection and implementation of a final aquifer remediation, and because the source removal at the Byron Salvage Yard has not been initiated, the four alternatives were evaluated and compared for three different project durations. These project durations are:

1) 5 years - The project would continue until completion of the source removal (assumed two years) and through completion of a three year ground water remediation program.

2) 7 years - The project would continue until completion of the source removal and through completion of an estimated five year ground water remediation program.

3) 20 years - The project would continue indefinitely.

Following a detailed description of each of the four alternatives is a table presenting life cycle costs as present worth costs. A present worth cost is the dollar amount needed to be set aside at the present time to fund the project for it's determined lifetime. All estimates include capital costs which are the initial costs associated with implementing the alternative, such as design and construction, and O&M costs which are estimates of annual operation and maintenance costs. Following the detailed descriptions and cost evaluations is a summary table comparing the cost analysis of each alternative.

1. NO-ACTION ALTERNATIVE - Several of the wells in the Rock River Terrace area contain trichloroethylene at concentrations above the Cancer Assessment Group lifetime 10^{-6} risk level of 2.8 ppb. It was assumed that if no action were taken the TCE concentrations would remain high and possibly increase in the future. Long-term consumption of this water therefore represents an unacceptable health risk to the residents in the Rock River Terrace area. It is unknown how long residents in this area have been consuming, and have been exposed to, TCE contaminated water. Sampling efforts prior to the U.S. EPA investigation which began in July, 1985, did not attempt to identify volatile organic contaminants in residential well water in Rock River Terrace. Contamination from the Salvage Yard in the form of cyanide and inorganics was in the Rock River Terrace area as long ago as the early to mid-1970s and TCE may also have been present. Because of the uncertainties regarding duration and concentration of contaminant exposure, and the probability that the ground water will not be cleaned within the next few years, the no-action alternative is not considered to be acceptable.

2. CONNECTION TO THE BYRON MUNICIPAL WATER SUPPLY SYSTEM - A new water main extension from an existing acceptable water supply was advanced for further consideration. Preliminary assessment of this alternative suggests that an 8-inch water main would be connected to the Byron water distribution system to carry water to the Rock River Terrace area. As already discussed, the Byron system appears to have the capacity to supply the Rock River Terrace area, but the system would probably require design modification

and strengthening to supply sufficient water pressure. Strengthening would include an increased pumping capacity and larger in-system pipe sizes. The transmission main would have to leave the Byron system and cross the Rock River at some point. The line could either cross immediately south in the area of the existing bridge along German Church Road, or travel west along Rock River and cross in the vicinity of the Terrace. A storage tank and pump station would be needed to ensure an adequate quantity of water at sufficient pressure.

The distribution system within Rock River Terrace was evaluated based on 3.5 persons per residence, 49 gallons per capita per day average consumption. The total amount was increased by 180% to estimate maximum use requirements. The distribution system within the Terrace would consist of 6-inch mains with fire hydrants at dead end mains for flushing. Housing connections at each residence were assumed to be 5/8 inch copper with 5/8 inch meters. It was assumed the minimum burial depth for all water mains and services would be 5 feet.

This alternative would provide a high degree of public health protection. Residents would receive municipal water which is monitored in accordance with State water quality regulations. There would be no TCE exposure hazards associated with ingestion, inhalation or skin absorption because all water entering the household would be treated. Some local wells are installed near household septic tanks, and the water line would eliminate concerns of bacterial contamination. The water supply provided by the City of Byron should be very reliable and independent of local ground water level fluctuations. Residential costs appear to be minimal. The annual cost of water for each residence, based on the current Byron water rate of $7.50 per 5,000 gallons, would be approximately $94. The annual cost of paying for city water would probably be offset by the present pumping and maintenance costs associated with a private well.

This alternative would be the most expensive and time consuming to implement of the viable alternatives. Capital costs are estimated to be $908,050. Several factors could increase this estimate. It is possible that extensive water distribution modeling studies would be required. Easements would need to be acquired. Implementation of this alternative would create some community and environmental disruption during construction. Additionally, while the focus of this study is on the Rock River Terrace area, it has been stated that if the alternative chosen would help to alleviate the residential water situation on Acorn and Razorville Roads, where TCE concentrations are an order of magnitude higher that most of Rock River Terrace, then those residents would also be included in the remediation process. Providing municipal water to those homes would certainly alleviate their current situation but it may also significantly increase costs. All of the above factors can seriously increase implementation time.

ALTERNATIVE 2

CONNECTION TO BYRON SYSTEM

Capital Costs

Site Work and Excavation	$ 115.000
Mechanical, Piping, Valves Services, etc.	430,000
Pump Station and Storage Tank	90,000
Contingency (30%)	190,500
Construction Engineering (5%)	31,750
Engineering Design Costs (8%)	50,800
Total Capital Costs	$ 908,050

Annual Costs

Water[a] (110 residences)	$ 10,300
Power	400
Operation and Maintenance	30,600
Total Annual Cost	$ 41,300

Present Worth of Annual Costs	$ 156,500[b]	$ 201,100[c]	$ 351,500[d]
Total Present Worth of Alternative	$1,065,000[b]	$1,109,000[c]	$1,260,000[d]

a Not including water for lawn sprinkling.
b Based on 5 year life, 10 percent discount rate, no escalation, start date Spring 1986.
c Based on 7 year life, 10 percent discount rate, no escalation, start date February 1987.
d Based on 20 year life, 10 percent discount rate, no escalation, start date Spring 1986.

Finally, the municipal water supply option is not consistent with the stated criteria of the PFS. One important objective is to provide an interim alternate water supply to area residents until implementation of the final, permanent ground water remedial alternative. An interim remedy is desired because it is not clear at this time what final remediation actions will be taken. For instance, it is anticipated that the source removal RA will significantly reduce contaminant loading into the aquifers. The ground water contamination RI/FS will evaluate methods which can be used to cleanse the ground water and restore the environmental quality of the aquifers. Extension of a municipal water supply system is a final remedy option which is considered premature until completion of other on-going investigations. While it is possible that this alternative will need to be considered upon completion of RI/FS activities, the high costs and extended implementation time can not be justified at the present time.

3. BOTTLED WATER - Bottled water would provide a safe drinking water supply to residents. This alternative is the least costly to implement and there is virtually no design or construction time consideration so that the project could be initiated almost immediately upon approval. Under this consideration residents would need to be canvassed to determine water use needs, such as the number of people residing in the home, their ages and how much time is spent in the household. Shipments of bottled water would be delivered on a regular basis, probably monthly, to all residences. Based on average consumption rates, 15 cases of 6 one gallon bottles would be supplied to each household per month. Cost of the water is estimated to be $4.25 per case. Management costs are assumed to be low and include approximately 8 man-hours per month for project administration. Almost the entire scope of this project could be contracted.

Although there are no capital costs associated with the implementation of this alternative, O&M expenses are relatively high, approximately $91,150 per year. Bottled water would be an inconvenience to users and require storage space. The supply of bottled water, while relatively reliable, is subject to potential delivery schedule disruption. Finally, and most importantly, this alternative would not eliminate the potential exposure hazards associated with washing and bathing.

Approximately 20 homes in the Rock River Terrace area are occupied on a seasonal basis during the months May through September. Individuals living in these homes have a decreased exposure potential because of the short annual residency. Because of a reduced exposure risk, and because carbon filters are not effective under intermittant use conditions, bottled water is the most cost-effective alternative which is also protective of public health for seasonal residents.

4. RESIDENTIAL TREATMENT UNITS - Activated carbon has been very successful in removing volatile organic contaminants from drinking water supplies on a municipal and point-of-use scale. Research indicates that carbon

ALTERNATIVE 3

SUPPLYING BOTTLED WATER

Item	Cost
Capital Cost	$ 0
Annual Cost (O&M)	
Bottled Water	84,150
Project Administration	7,000
Total Annual Cost	$ 91,150
Present Worth of Annual Cost* (Also total present worth project cost)	
5 Year Project Duration	$345,500
7 Year Project Duration	443,900
20 Year Project Duration	775,700

*10% discount rate, no escalation.

filtration can be >99% effective at removing TCE from water. Two types of carbon filters were considered in this study, point-of-use or single tap, and whole-house residential systems. Because point-of-use filters treat water only at a single drinking water tap they were not carried beyond preliminary screening. Hence, this evaluation will focus on the whole-house units.

A typical whole-house treatment system consists of two carbon filters, an in-line flow meter, particulate filter, and, potentially, a bacterial treatment unit. Units are installed such that water passes through a particulate filter and flow meter prior to entering the carbon filter. If the influent water carries bacterial contamination, possibly from a septic tank, a bacterial treatment unit can be installed prior to the carbon filters to prevent bacteria from entering the media. The water will then pass through both carbon filters before entering the household distribution system. Two carbon filters are installed, one as a primary and one as a backup or secondary. The carbon media lifetime is finite and at some point will become saturated with contaminants and experience breakthrough. The second filter is insurance against potential breakthrough. Once breakthrough has occurred, a replacement filter will be installed. The primary or saturated filter is removed and the carbon is regenerated or incinerated. The secondary filter is moved to the primary position and a new filter is installed in the secondary position. The entire system can be installed in a basement or garage and probably would take up about as much room as a water heater.

Whole-house carbon filter systems have a relatively low capital implementation cost. These costs include equipment purchase and installation fees. Design of the system would be relatively simple and it is predicted that four months would be required to design, purchase and install the systems. Carbon filters are a proven technology; residents would not be exposed to contaminants because all of the water entering the household is treated prior to distribution. The filter systems could be easily removed from the plumbing system once contaminants have been cleaned from the aquifers or another source of water is supplied.

The cost of operation and maintenance is dependent upon the frequency of filter changes required. The PFS considered, for cost purposes, the need to change filters once every six months, resulting in an annual replacement fee of $44,000. In fact, recent experiences with carbon filters at other sites have shown that, with proper design, filters can last at least 18 months each before breakthrough. This would significantly reduce annual operating costs. A sampling program will be required under this alternative. This effort would be designed to sample selected houses on a regular basis to assure proper system operation. Analysis of untreated and treated water for VOC's and bacteria would cost approximately $220.00 per sample. Because carbon is a medium which can be conducive to bacterial growth if left stagnant (for instance if the water system is not used for extended periods of time), installation of bacterial treatment systems

ALTERNATIVE 4

WHOLE-HOUSE CARBON FILTRATION

ITEM			
Capital Cost			
Carbon Filter, Chlorinator, Mixing Tank ($800/unit, 110 units)			$88,000
Installation ($250/unit, 110 units)			27,500
Total Capital Cost			115,500
Annual Cost			
Project Administration			$7,000
Replacement Filters ($200 each, semi-annually)			44,000
Total			51,000
Monitoring Program			
5 year duration	$23,200		
7 year duration		$17,000	
20 year duration			$6,800
Present Worth of Annual Costs*	281,300	331,000	492,100
Total Present Worth Cost	$396,800	$446,500	$607,600

*10% Discount rate, no escalation.

COST SUMMARY OF ALTERNATIVES

ALTERNATIVE	CAPITAL COST	PRESENT WORTH O&M COST 5 YR	7 YR	20 YR	TOTAL PRESENT WORTH COST
1. No Action	$0	$0	$0	$0	$0 $0 $0
2. Connection to Byron System	$908,100	$156,500	$201,100	$351,500	$1,064,600 1,109,200 1,259,600
3. Bottled Water	$0	$345,500	$443,900	$775,700	$345,000 443,900 775,700
4. Whole-House Carbon Units	$115,500	$281,300	$331,000	$492,100	$396,800 446,500 607,600

may be required. The filters would require minimal attention from the homeowner. If there were no available space in the home for the systems a weatherized containment structure would need to be constructed. Because carbon filtration systems are not effective for intermittant use with long dormancy periods such as at seasonal homes, bottled water would be provided to the 20 homes that are seasonally occupied.

SUMMARY OF RECOMMENDED ALTERNATIVE

The National Oil and Hazardous Substances Contingency Plan (NCP) [40 CFR Part 300.68(j)] states that the appropriate extent of remedy shall be determined by the lead agency's selection of the remedial measure which the agency determines is cost-effective, technologically feasible and reliable, and which effectively mitigates and minimizes damage to and provides adequate protection of public health, welfare and the environment. Based on the evaluation of cost and effectiveness of each proposed alternative, comments received from the public, and State and Federal environmental requirements, installation of whole-house filtration systems has been selected as the most viable alternative which is also consistent with any future final remedy. This alternative would be supplied to all homes inhabited year round in the Rock River Terrace area. Because seasonal homes are occupied approximately five months of the year, resulting in a reduced health risk to residents, and because of the inefficiency of carbon filtration systems when operated under intermittant conditions, bottled water would be supplied to the 20 homes with seasonal residents.

The recommended alternative is considered an operable unit remedial action. This operable unit remedial action would provide a reliable supply of safe, potable water until the final remedial measure(s) is implemented. This remedial action is considered appropriate because of the long-term health threat associated with ingestion of and contact with contaminated water in the Rock River Terrace area.

Design, purchase and installation of carbon filtration systems to approximately 110 homes in the Rock River Terrace area would require an estimated four months. Design of the systems should be relatively straight forward. Because of the extensive data available regarding water chemistry in the study area, isotherms would be simple to calculate. These isotherms would be necessary to determine the size of the carbon filters required, how much granular carbon is needed for each tank, the necessary water contact time, whether water softeners are needed to extend carbon lifetime, and predicted carbon breakthroughs. Design would also involve a thorough canvass of the affected area to determine the number of residents per home, normal daily water usage and space availabile within the home for placement of the filtration system. The canvass should also include seasonal homes to determine the number of occupants who would be participating in the bottled water program.

OPERATION AND MAINTENANCE

Installation of carbon filtration systems would require an intensive operation and maintenance program. Although breakthrough times can be predicted using isothermal models, a sampling program is necessary to insure product efficiency and modeling accuracy. It is anticipated that a quarterly sampling of 11 homes (10% of total impacted) would be justified. Those homes with the highest historical concentrations of contaminant and/or the greatest volume of normal water usage would be selected for sampling. Sampling at each residence would consist of three separate samples including a pre-filter or untreated water, between filter, and post-filtration or point-of-use sample. At a minimum, samples would be analyzed for a full scan of volatile organic compounds. Once breakthrough has occurred, replacement filters would need to be installed. Although installation is a relatively simple process a certified plumber would probably still be required to change filters. Spent carbon may be considered a hazardous waste and documentation and tracking procedures would need to be instituted to assure proper regeneration or destruction of the material.

Contaminants other than volatile organics, including cyanides and heavy metals, have been detected in monitoring well samples taken on and near the Byron Salvage Yard. Periodic sampling at the residential wells nearest the site has consistently revealed acceptable (according to Primary Drinking Water Standards) levels of metals concentrations in the private well water and cyanides have not been detected, although historically cyanide has been found in Meyer's Spring along the presumed Woodland Creek fault trace. The U.S. EPA feels that if these contaminants were a threat to the residential wells in the area they would have appeared in previous sampling efforts. It is therefore assumed that the cyanides and heavy metals are not being transported downgradient within either aquifer due to various physical reactions. The metals are probably insoluble in these waters and relatively immobile. Cyanides may be adhering to soil surfaces. However, because these contaminants are present at the Salvage Yard both in the soils and well water, and because of the potential for future migration of these contaminants, it is recommended that monthly sampling efforts include analysis for the parameters cyanide and metals. Carbon filters may be effective at filtering some inorganics in the short term, but if heavy metals and/or cyanide were to appear in residential well water at significant concentrations, other drinking water alternatives would need to be implemented.

The bottled water program instituted for seasonal residents can be contracted entirely. Shipments of water would be delivered on a monthly basis. Although the exact number of homes requiring this alternative is unknown, best estimates from recent canvassing and community relations activities indicate that 20 homes would be eligible for the program. Bottled water used for this phase of the remedial action would need to be analyzed periodically to assure purity for drinking water purposes.

Because this is an operable unit for an interim remedy the O&M time frame is unknown at this time. However, the ground water RI/FS completion date is scheduled for mid-1987, and five years of O&M requirements are predicted. U.S. EPA would be responsible for funding 90% of the implementation and O&M costs for the remedial actions for one year. IEPA is the designated State Agency that is responsible for O&M for the duration of the remedial action. The total O&M present worth cost for a five year project duration is estimated to be $338,900 or $66,483 per year.

COMMUNITY RELATIONS

Public interest in U.S. EPA actions at the Byron Johnson Salvage Yard has been high since funds for a remedial action (source removal) were deobligated in May 1986, due to the lack of a CERCLA-compliant disposal facility in Region V. U.S. EPA scheduled a public meeting on June 24, 1986, to announce the completion of the PFS and to discuss other ongoing issues such as the status of the RA and the ground water RI/FS. Approximately 100 persons attended the public meeting in the Rockvale Township Hall. U.S. EPA presented the PFS to the public by discussing the history of the project, the need for an operable unit, the methodologies involved in preparing the document, and finally a summation and discussion of alternatives evaluated. U.S. EPA announced that whole-house carbon filters were considered the most viable interim drinking water alternative evaluated in the study. IEPA was then given time to present the alternative preferred by the State of Illinois, connection of a municipal water line to the Rock River Terrace area. Official public comment began at this time and was to continue for three weeks. However, because of the extended public comment during the meeting, and to allow IEPA time to research details associated with the water line alternative, public comment was extended until the 5th of August. Another public meeting was scheduled to be held before the end of the public comment period. Copies of the PFS were made available to the public during the entire comment period.

U.S. EPA spent considerable time between the first and second (July 29th) public meetings in the Rock River Terrace area providing as much information about the PFS and other investigations as possible to the residents. U.S. EPA participated in two unscheduled meetings with local residents during this period. Various State, Federal and local public officials were present at some or all of the above meetings. Additionally, individual interviews were arranged with local residents to discuss private wells, results of water analyses and other issues. Fact sheets describing the final alternatives were distributed during these public meetings.

A final public meeting revolving around the PFS was held on July 29th at the Byron Cultural Center. Approximately 100 individuals were in attendance including State and local officials and media representatives. The meeting was moderated by U.S. EPA and included IEPA presentations on its proposals to remove the source material at Byron Johnson Salvage Yard and a plan to connect a municipal water line from the City of Byron to the residents in Rock River Terrace. IEPA had previously announced these two

actions at a press conference held the 24th of July at the Byron Johnson Salvage Yard site. IEPA stated that the water line would be installed by the end of next summer (1987) or approximately one year from the announcement date. At the meeting, IEPA could not confirm exactly which affected residents would be eligible for the water line but stated that Rock River Terrace residents would receive municipal water if they so desired and so would residents along the route of the installation line. IEPA stated that its intent was also to hook up the residents of Acorn and Razorville Roads because they were the most affected by ground water contamination.

Public reaction was overwhelmingly in favor of the State proposal to install water mains in the affected area (see Responsiveness Summary, Attachment 2). U.S. EPA believes that residents either did not understand or did not accept U.S. EPA reasoning for recommending an interim solution. Justification for U.S. EPA's recommendation is that an RI/FS is currently evaluating the ground water contamination in the area and that there is potential for aquifer remediation, either naturally or by human intervention, within the next five years. The municipal water supply is considered by U.S. EPA to be a long term, final solution which can not at this time be justified.

STATE RESPONSE

The Illinois EPA expressed an unwillingness to assume responsibility for the operation and maintenance requirements associated with the carbon filter alternative. IEPA had advocated selection of the water line alternative even though it was considered by U.S. EPA a permanent remedy which may not be consistent with the final ground water remediation program. After further discussions, IEPA announced that it would propose the water line alternative at the first public meeting. Prior to the meeting IEPA was informed that U.S. EPA could not support this decision and Superfund money would not be available to fund the project. As a result of the ensuing public comment IEPA has committed $920,000 to implementing the water line alternative entirely with State funds. IEPA has publicly committed to completion of the water line project within one year from the August 1986, implementation date. Because of the State of Illinois committment to provide a permanent water supply to the residents of the Rock River Terrace area, implementation of the alternative recommended in this Record of Decision is not required to alleviate the health threat posed by contaminated ground water in the Rock River Terrace area. Additionally, future implementation of the alternative recommended in this Record of Decision will not be possible unless the State of Illinois agrees to assume O&M and 10% funds match required by the NCP.

FUTURE ACTIONS

A Remedial Investigation/Feasibility Study (RI/FS) primarily addressing contaminated ground water emanating from the Byron Johnson Salvage Yard is underway. The FS is scheduled for completion in February 1987, but may be delayed due to current funding inadequacies. Expansion of the

study area may be required to incorporate the former Dirk's Farm property across Razorville Road from the Byron Johnson Salvage Yard. Ground water sampling data, and the detection of hydrogen cyanide gas while drilling monitoring wells on this property, suggest that contamination problems resulting from past dumping activities may still exist on Dirk's Farm and be a threat to public health and the environment.

IEPA RECORD OF DECISION

REMOVAL ACTION

Site: Byron/Salvage Yard
Rock River Terrace/Water Supply
LPC Site Number: 148200003

SITUATION

The Byron Salvage Yard is located four miles southwest of Byron, Illinois and consists of 20 acres of woodlands in a rural, agricultural area. The site operated during the 1960's and early 1970's as a salvage yard and an unpermitted landfill. The site is presently inactive and public access is restricted by fencing.

TCE as high as 710 ppb has been found in some of the nearby residential wells on Acorn Road. The residents have been provided whole house treatment units for their wells under a removal action by USEPA. A RIFS is being conducted by USEPA to address the groundwater contamination in the area. During this work lower levels of TCE was found in residential wells at Rock River Terrace which is located west of the site along the Rock River. USEPA has performed a phased FS to address alternatives for these contaminated wells.

DESCRIPTION OF PROPOSED REMOVAL ACTION

Alternatives evaluated in the phased FS include providing bottled water, installing home treatment units, and extending the watermain from the city of Byron. IEPA's evaluation of the options shows the extending of the watermain is preferred over other options because it is a permanent solution that would provide a safe reliable drinking water source for the residents of Rock River Terrace. In addition it may be feasible to connect the residents on Acorn Road should they desire municipal water.

This option has received initial public acceptance and in addition the city of Byron has indicated a willingness to provide an extension to their municipal system. Plans are to provide for funding this option with State funds through a cooperative agreement with Byron. USEPA has indicated they would only provide federal funds for the home treatment unit option.

ESTIMATED COSTS OF PROPOSED REMOVAL ACTION

Construction	$635,000
Design and Oversight	95,000
Contingency -- 30%	190,000
Total	$920,000

DECLARATIONS

I have reviewed the facts in this matter and in my opinion, planned removal actions by IEPA are justified pursuant to 35 Ill. Adm. Code 750.450. In accordance with Section 750.450(b) Phase V -- Planned Removal, the factor that IEPA utilized in determining that a planned removal is appropriate under this Section include the contamination of drinking water at the tap. Furthermore, consistent with the State Contingency Plan, I have determined that providing an alternate water supply at Rock River Terrace is a cost effective removal measure and mitigates immediate and significant risk of harm to human health and the environment.

7-14-86
Date

Richard J. Carlson, Director
Illinois Environmental Protection Agency

RJC:JH:jk/sp/1632f

Byron Johnson Salvage Yard, Byron
Phased Feasibility Study

Responsiveness Summary
September 1986

This community relations responsiveness summary is divided into the following sections:

Section I. Overview. This section discusses U.S. EPA's preferred alternative for remedial action, and likely public reaction to this alternative.

Section II. Background on Community Involvement and Concerns. This section provides a brief history of community interest and concerns raised during remedial planning activities for the Phased Feasibility Study in the Rock River Terrace area.

Section III. Summary of Public Comments Received During the Public Comment Period and the EPA Responses to the Comments. Both written and oral comments are categorized by relevant topics. U.S. EPA responses to these major comments are also provided.

Section IV. Remaining Concerns. This section describes remaining community concerns that U.S. EPA and the Illinois EPA should be aware of in conducting the remedial design and remedial action for the Rock River Terrace area.

In addition to the above sections, Attachment A, included as part of this responsiveness summary, identifies the community relations activities conducted by U.S. EPA and IEPA during remedial response activities at Rock River Terrace.

Attachment B contains fact sheets and news releases distributed during the project. Attachment C contains all written comments received. Attachment D lists all persons who submitted comments during the public comment period.

I. OVERVIEW:

During the public comment period, EPA presented three alternatives as being suitable for resolving, on an interim basis, contamination in drinking water wells in the Rock River Terrace area. (An RI/FS is underway to find a permanent remedy).

The three alternatives were:

1. Providing bottled water to all area residents;

2. Providing in-home carbon filter units to all continually occupied residences and bottled water to seasonally occupied homes; and

3. Extending the city of Byron's municipal water supply to the area.

U.S. EPA recommended the carbon filter units; IEPA recommended extending the municipal water supply. The final alternative specified in the Record of Decision (ROD) would supply in-home carbon filter units to continually occupied residents and bottled water to seasonally occupied homes. However, the alternative will not be implemented, because IEPA has committed $1 million of State funds to entirely fund the extension of the City of Byron water supply to the Rock River Terrace area.

Judging from comments received during the public comment period, the residents and local officials overwhelmingly favor the extension of the Byron water main to the Terrace area. Many also prefer that U.S. EPA supply carbon filter units until the water line is extended and hooked up. Many also commented that the water main should be extended to Acorn and Razorville roads (where 9 homes already have U.S. EPA supplied carbon filter units as part of an immediate removal action).

Section C below provides a more detailed discussion of individual preferences.

II. Background on Community Involvement and Concerns:

The Phased Feasibility Study for the Rock River Terrace area is one of several remedial planning activities U.S. EPA and IEPA have undertaken in regard to the Byron Johnson Salvage Yard site. In March 1985, a ROD was signed to implement removal of approximately 12,000 drums, and excavation and treatment of soil containing excessive levels of cyanide. In June 1985, a supplemental RI/FS was initiated to determine the source of groundwater contamination affecting 9 homes downgradient of the site. (EPA supplied bottled water to those homes from July 1984 until May 1986, when the Agency installed in-home carton filter units). This RI/FS has been since delayed by lack of funding. Sampling of private drinking water wells in July 1985 in the Rock River Terrace area (further downgradient from the Salvage Yard) led to the current PFS, which began in September 1985.

Interest in the project increased when U.S. EPA announced in May 1986 that the Salvage Yard removal would be delayed due to a lack of a disposal facility in Region 5 meeting the Agency's off-site policy. There was considerable media coverage, particularly because the Ogle County Health Administrator held a news conference disputing U.S. EPA's position that no disposal facilities were available. Residents living near the site were particularly frustrated.

Interest and concern peaked during the public comment period on the PFS. Rock River Terrace residents who had previously expressed little interest in the Salvage Yard, showed great concern about the Salvage Yard, the PFS, and other possible sources of contamination in the area.

III. Summary of Public Comments Received During Public Comment Period and Agency Responses.

Comments raised during the PFS public comment period are summarized below The comment period was held from June 24 to August 5, 1986. The comment period was originally scheduled to conclude July 14, but EPA extended the period to August 5 to allow additional time for discussion and comments. Two public meetings were held to receive verbal comments, and written comments were accepted, postmarked on or before August 5.

In all, 14 verbal comments and 45 written comments were received by U.S. EPA. Some people submitted both verbal and written comments. In addition, IEPA distributed to the affected area a survey/fact sheet on which residents could state their preferred alternative. 134 of these survey forms (out of 135 distributed) were submitted to IEPA. 115 preferred the water main extension, 16 preferred the carbon filter units, 1 preferred bottled water and 2 preferred a different remedy altogether.

Questions About The Recommended Alternatives

Numerous questions (as opposed to comments) were raised at the June 24, 1986 public meeting, and subsequently, regarding the carbon filter units, the water main extension and EPA's well sampling. Who would maintain the carbon units? How long do carbon filters remain effective? Are the filters effective for heavy metals or cyanide? Would the water main be extended to Acorn and Razorville roads? Who would pay to tap-in the homes? Could non-affected homes be hooked-up? Would more wells be tested to determine more precisely which wells are affected? What will be done about wells that are not now affected, but might become contaminated? Why were some wells sampled, but not others?

EPA Response: U.S. EPA responded to questions about the carbon filter units at the public meeting. IEPA would be responsible for maintaining the units. The effective lifetime of carbon filter units varies depending on the water used in a particular home and on the concentration of contaminants in the water. U.S. EPA explained how residents could increase the longevity of the filters. Carbon filters are not particularly effective in treating metals; however, no heavy metals or cyanide have been found in recent years in any private wells in the area, including residential wells immediately adjacent to the Salvage Yard site. Carbon filters are very effective in removing organic chemicals, which have been found in the area's wells.

In order to give IEPA adequate time to research answers about the water main extension and to allow more opportunity for discussion and comments, U.S. EPA extended the public comment period and scheduled a second public meeting for July 29, 1986. In addition, IEPA distributed a fact sheet providing more information about each proposed remedy. IEPA had more precise cost information and expressed its intention to provide water hookup (at no cost) to all residents in the Terrace area, and on Acorn and Razorville roads, and to make the line available to currently unaffected residences between Byron and the Terrace.

To respond to questions about individual well results, U.S. EPA offered to make individual appointments with residents on July 9 & 10. The Agency offered to meet both with residents whose wells had been tested and with residents who were concerned that their wells had not been tested.

Remedial Alternative Preferences

1. Virtually every commenter recommended that the City of Ryron water supply be extended to the Rock River Terrace area.

   EPA Response: Illinois EPA has committed $1 million to fund the extension of the water main, and to hookup individual homes to the main line.

   U.S. EPA did not choose the water main extension in the Record of Decision because the PFS was intended to come up with an interim solution while the RI/FS is underway to identify the source of contamination. U.S. EPA expects to choose a permanent remedy, based on the findings of the RI/FS within two years. The Superfund regulations don't allow the Agency to choose an interim solution that might conflict with or affect a permanent remedy. For example, it is possible the groundwater could be cleaned wthin 5 years, rendering a water line extension unnecessary. U.S. EPA could not justify spending funds on a permanent remedy, such as the water line extension, in light of the ongoing RI/FS. Also, the carbon filters could be installed almost immediately, making them a more effective interim measure than the water main extension.

2. Approximately a dozen commenters requested that carbon filter units or bottled water be supplied until IEPA finishes extension and hookup of the water main.

   EPA Response: U.S. EPA appreciates residents' concern about possible adverse health effects from drinking contaminated water while the extension is installed, so the Agency evaluated the health risk posed by consuming the water in the Terrace during the construction period. IEPA has stated that it will take one year to extend the line; to be conservative, U.S. EPA evaluated the health risk if residents consumed the water for one to two years. As the chart on Table 1 of the ROD shows, the level of TCE that would pose an unacceptable health risk in two years is 98 ppb. The highest level of TCE found in a Rock River Terrace well was 48 ppb. The unacceptable level of TETRA is 10.5. The highest level found was 0.3 ppb. Because there is not an unacceptable risk posed by consuming the water while the water main is extended to the area, U.S. EPA can not provide carbon filter units or bottled water in the interim as an emergency measure.

   However, the signing of the Record of Decision means that U.S. EPA will provide carbon filter units to the area as a remedial measure if the State of Illinois will pay 10% of the cost and assume responsibility for the maintenance of the units. The Superfund law requires States to pay 10% of the costs and assume long term responsibility of remedial projects. The State has declined to participate in providing carbon filter units to the Terrace area.

U.S. EPA recognizes that not every well in the Rock River Terrace area has been sampled. The Ogle County Health Department announced at the July 29 public meeting that it had arranged with the Illinois Department of Public Health to sample wells of Rock River Terrace residents who request that a sample be taken. U.S. EPA encourages residents whose wells have not been sampled to contact the Ogle County Health Department.

3. Eight commenters sent a form letter, or a handwritten version of the same letter, requesting that EPA "preauthorize" Terrace residents to purchase purification systems, then reimburse the residents upon completion of the water main extension.

   EPA Response: U.S. EPA will not preauthorize residents to buy filters with a promise to reimburse them. As in Response 2, the risk from consuming the water while the water main is extended does not justify the use of carbon filters during the construction. If there were an unacceptable short term risk, U.S. EPA would provide the filters or an alternate water supply directly to the residents.

4. Several commenters, both in writing and verbally, requested that the City of Byron water supply be extended to homes on Acorn and Razorville roads. Also, some commenters asked that the main line be made available to residents who live between Byron and the Terrace, or between the Terrace and Acorn and Razorville roads.

   EPA Response: IEPA is studying the feasibility of extending the City of Byron water supply to Acorn and Razorville roads. The Agency also has said it intends to design the extension so that residents in the "in-between" area can hook onto the water line. (The residents in the "in-between" areas whose well are not contaminated will have to pay for their own hook-ups. Residents whose wells are contaminated will have their hookup paid by IEPA.)

   U.S. EPA has already provided carbon filter units to homes with contaminated water on Acorn and Razorville roads as an emergency measure. If U.S. EPA were to provide carbon filter units to the Terrace area, the Agency would provide them to residents who live between the Terrace and Acorn and Razorville roads, because that is considered part of the affected area. The Agency would not provide the units to residents between the City of Byron and the Terrace because those homes are not in the affected area. Bottled water would be provided to homes occupied only seasonally. (See Response 2 also.)

5. One commenter questioned how the Agencies will deal with new homes built after the line extension is completed.

   EPA Response: According to IEPA, owners of homes built after the water line is extended will be able to hook onto the main for the normal tap-in fee.

   As in Response 4, if U.S. EPA were to provide carbon filter units to the Terrace area, new homes built in the affected area would be eligible.

6. One commenter preferred that a new water well be dug for the Terrace area, or that carbon filter units be supplied. Two commenters expressed concern about having to pay a water bill.

EPA Response: U.S. EPA considered, but rejected, developing a new water supply for the area (ie. digging new wells). Both the initial and long-term costs would be very high, and it would take several years to implement. (See page 8 of the ROD for more explanation). EPA did choose carbon filter units as its remedy, but because IEPA will be using its own funds to extend the water main, the carbon filter units will not be necessary.

IEPA has stated it will pay to extend the water main, and to hookup each home in the Terrace. Residents with uncontaminated wells in the "in-between" areas will have to pay their own hookup. The PFS estimates the average annual water bill will be $94.

IV. Other Comments and Remaining Concerns:

Many comments were submitted concerning other aspects of U.S. EPA and IEPA activities in the area.

1. Approximately half the commenters said that clean up of the Byron Johnson Salvage Yard is critical.

In March 1985, U.S. EPA signed a ROD to remove approximately 12,000 drums and to excavate and treat soil containing excessive levels of cyanide. U.S. EPA was unable to proceed with the removal when funds were available because no disposal facilities in the Midwest were available that met U.S. EPA's requirements for disposal of solid Superfund waste. IEPA is not required to meet all those requirements, and so can proceed with the removal.

IEPA announced on July 24, 1986 that it has committed funds to conduct the source removal on the site. It has opened the bidding process to select a cleanup contractor and expects to begin removing drums and excavating soil in the Fall, 1986.

2. About ten commenters, including the eight who submitted identical letters, stated that cleanup of Dirk's Farm is necessary.

U.S. EPA intends to investigate Dirk's Farm as part of its investigation of groundwater problems in the Rock River Terrace/Byron Johnson Yard area. U.S. EPA is negotiating with Commonwealth Edison, owner of the Dirk's Farm property, to have the company conduct the investigation under U.S. EPA's oversight. If negotiations are unsuccessful, U.S. EPA intends to conduct the investigation when funds are available.

3. A few commenters questioned EPA's efforts to have the PRPs (potentially responsible parties) held responsible for the contamination. Some said the PRPs should be prosecuted.

   U.S. EPA and IEPA staff described at the public meetings the Agencies' enforcement procedures. Notice letters have been sent to PRPs regarding the Byron Johnson Salvage Yard. However, in a case such as this when there are no viable PRPs, U.S. EPA undertakes work and then attempts to recover its cost, sometimes through the courts. U.S. EPA is negotiating with Commonwealth Edison to have the company conduct the investigation of the former Dirk's Farm property.

   The Superfund law considers any party connected with contamination at a site (ie. site owner or operator, waste generator or transporter) to be responsible for paying for a clean up. This does not necessarily mean the parties are guilty of violating any laws; often there were no laws governing such disposal practices when the disposing took place.

4. A few commenters suggested additional possible sources of contamination, such as old dump sites.

   U.S. EPA's Remedial Project Manager has followed up with those commenters and has visited a few of the alleged dump sites. This information will be passed on to other concerned agencies for further evaluation.

RECORD OF DECISION
SIGN-OFF

PROJECT NAME: Byron Johnson Salvage Yard Operable Unit

REMEDIAL PROJECT MANAGER: Kenneth A. Wallace

RPM TELEPHONE NUMBER: 886-9296

1. OFFICE OF PUBLIC AFFAIRS

Community Relations Plan developed/implemented? X yes ___ no

OPA Community Relations Coordinator Margaret McClure 9/9/86 date

2. INTERGOVERNMENTAL RELATIONS

State Coordinator Mary J Canavan 9/23/86 date

3. OFFICE OF REGIONAL COUNSEL

Legal requirements met? ✓ yes ___ no

Site Attorney Michael Berry 9/22/86 date

Section Chief [illegible] 9/15/86 date

SWERB Chief [illegible] 9/15/86 date

Regional Counsel [illegible] (rec'd 9/22) 9/22/86 date

4. WASTE MANAGEMENT DIVISION

Remedial Project Manager [illegible] 8 Sept 1986 date

SMS, Unit Chief [illegible] 9-11-86 date

SMS, Chief Gregory C. Vandenberg 9/11/86 date

ERRB, Chief [illegible] 9/23/86 date

CES, Project Manager [illegible] 9-12-86 date

CES, Unit Chief [illegible] 9-12-86 date

CES, Chief [illegible] 9/12 date

HWEB, Chief [illegible] 9/12 date

WMD, Director [illegible] 9/15/86 date

ATTACHMENT A

Community Relations Activities

Conducted During PFS

Summer and Fall, 1985	U.S. EPA distributes fact sheet on private well sampling and TCE.
May 9, 1986	U.S. EPA distributes news release announcing that carbon filter units will be provided to 9 homes, but that source removal delayed due to lack of CERCLA-authorized disposal facility.
June 13, 1986	U.S. EPA distributes news release announcing availability of PFS and start of public comment period.
June 18, 1986	U.S. EPA supplies copies of PFS to repositories at the Ogle County Clerk's Office and Byron Public Library.
June 24, 1986	Public Meeting at Rockvale Township Hall. U.S. EPA distributes fact sheet describing alternatives and other activities related to Salvage Yard.
July 3, 1986	U.S. EPA distributes news release announcing extension of public comment period, date of second public meeting, availability of IEPA survey/fact sheet, and availability of U.S. EPA RPM for individual consultation.
July 9 & 10, 1986	U.S. EPA RPM meets with individual well owners at Rockvale Township Hall. Conducts impromptu public meeting organized by local newspaper.

* Press Releases were sent to local and Rockford media, local officials and persons on site mailing list

EPA Environmental NEWS RELEASE

United States Environmental Protection Agency
Region V
230 S Dearborn St
Chicago IL 60604

Technical Contact: Kenneth Wallace
(312) 886-9296

Media Contact: Margaret McCue
(312) 886-4359

For Immediate Release: May 9, 1986

NO. 86-94

U.S. EPA TO PROVIDE WATER FILTERS FOR BYRON HOMES, BUT LONG-TERM CLEANUP DELAYED

U.S. Environmental Protection Agency (EPA) Region 5 Administrator Valdas V. Adamkus announced today that the Agency will take steps to clean the water at nine homes near the Byron Salvage Yard, Byron Il.

A carbon-filter unit will be installed in each home's water main to remove trichloroethylene, an industrial degreaser, in the water. The new units will clean all water entering the homes, including water used for bathing. To maintain the units' effectiveness, EPA will need to replace the carbon periodically. EPA has been providing the residents with bottled water since July 1984.

Work to install the filter units will begin at the end of May and should take approximately 2 weeks. The projected cost is $12,000, funded by the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), commonly called Superfund.

- more -

In a separate development, Adamkus announced today that no disposal facilities in the Midwest are currently eligible to accept waste drums and soil that were to be removed from the Byron Salvage Yard site. Currently, all midwestern hazardous waste disposal sites are violating some technical requirements of their permits. While the violations are not causing environmental problems, U.S. EPA will not allow waste from Superfund sites to be sent to disposal sites that do not meet all operating requirements.

EPA is working with the disposal facilities to bring them into compliance with regulations.

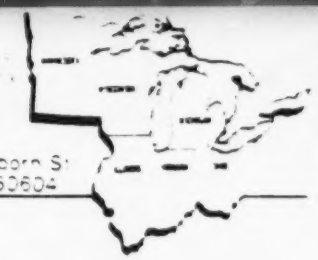
The Byron yard cleanup is expected to cost $2.6 million. Under an agreement with U.S. EPA, Illinois EPA will cleanup the site using funds from CERCLA.

The Byron site was used in the 1960's and early 1970's as a salvage yard and an unpermitted landfill. Wastes that will be removed from the site include approximately 600 drums of waste paint, solvents, and debris; 11,000 buried drums, and 660 cubic yards of contaminated soil. The site is secured by a fence to prevent persons from coming into contact with the wastes.

The site is suspected of contaminating the nearby residential water wells. U.S. EPA is conducting additional investigations to determine the source and extent of the contamination.

# # #

EPA Environmental NEWS RELEASE



United States Environmental Protection Agency
Region V
230 S Dearborn St
Chicago IL 60604

Technical Contact: Kenneth Wallace
(312) 886-0296

Media Contact: Margaret McCue
(312) 886-4359

For Immediate Release: June 13, 1986

No. 86-127

U.S. EPA SEEKS PUBLIC COMMENT ON ROCK RIVER TERRACE WATER PLANS

U.S. Environmental Protection Agency (EPA) Region 5 announced today a public comment period regarding plans to protect residents from contaminated drinking water in the Rock River Terrace area, Ogle County, IL.

A public meeting will be held to discuss the plans and to accept comments on June 24, 1986 at 7 p.m. at the Rockvale Township Hall, 6057 IL Route #2 North, Oregon, IL. Verbal or written comments will be accepted at the meeting. Written comments may be sent to EPA's Regional office in Chicago and must be postmarked by July 14, 1986.

EPA is proposing to install carbon filter units in each home that has unacceptable levels of trichloroethylene (TCE), an industrial degreaser, in its water. The Agency is also proposing to install the units in homes that receive clean water, but that may become contaminated. Approximately 100 homes will be eligible for the units. The level of TCE found in the water does not pose an immediate health threat, but EPA is concerned about possible effects from long-term exposure to TCE.

- more -

EPA Environmental NEWS RELEASE

United States Environmental Protection Agency
Region V
230 S. Dearborn St.
Chicago, IL 60604

Technical Contact: Kenneth Wallace
(312) 886-0296

Media Contact: Margaret McCue
(312) 886-4359

For Immediate Release: June 13, 1986

No. 86-127

U.S. EPA SEEKS PUBLIC COMMENT ON ROCK RIVER TERRACE WATER PLANS

U.S. Environmental Protection Agency (EPA) Region 5 announced today a public comment period regarding plans to protect residents from contaminated drinking water in the Rock River Terrace area, Ogle County, IL.

A public meeting will be held to discuss the plans and to accept comments on June 21, 1986 at 7 p.m. at the Rockvale Township Hall, 6057 IL Route #2 North, Oregon, IL. Verbal or written comments will be accepted at the meeting. Written comments may be sent to EPA's Regional office in Chicago and must be postmarked by July 14, 1986.

EPA is proposing to install carbon filter units in each home that has unacceptable levels of trichloroethylene (TCE), an industrial degreaser, in its water. The Agency is also proposing to install the units in homes that now have clean water, but that may become contaminated. Approximately 100 homes will be eligible for the units. The level of TCE found in the water does not pose an immediate health threat, but EPA is concerned about possible effects from long-term exposure to TCE.

- more -

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The carbon in the proposed filter units traps organic contaminants, allowing clean water to flow through the household tap. The units will need to be replaced periodically to maintain their effectiveness.

The cleanup action is being proposed under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), commonly called Superfund. Funding for Superfund expired in September 1985. Until Congress reauthorizes the law or other money becomes available, U.S. EPA will not be able to provide the proposed units for the Rock River Terrace neighborhood. The Agency is holding the public comment period now so that action can proceed when funds are available. U.S. EPA installed similar units in May 1986 in nine homes near the Byron Salvage Yard. Because of the very high levels of TCE in the water of those homes, U.S. EPA was able to use emergency funds.

The contamination source in the terrace is not known, although the Byron Salvage Yard is suspected. U.S. EPA is conducting additional investigations to determine the extent of ground-water contamination around the Salvage Yard.

At the June 24 meeting, U.S. EPA and Illinois EPA staff will describe the proposed cleanup plans, the additional investigation, and other activities related to the Salvage Yard site.

Copies of the feasibility study describing the proposed Rock River Terrace plans are available for public review at:

Ogle County Courthouse
County Clerk's Office
Oregon, IL

Byron Public Library District
109 N. Franklin
Byron, IL

Comments should be addressed to:

Margaret McCue, 5PA-14
Community Relations Coordinator
U.S. EPA Region 5
230 S. Dearborn St.
Chicago IL 60604

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EPA Environmental NEWS RELEASE

United States Environmental Protection Agency
Region V
230 S Dearborn St
Chicago IL 60604

Technical Contact: Kenneth Wallace
(312) 885-9236

Media Contact: Margaret McCue
(312) 886-4359

For Immediate Release: July 3, 1986

No. 86-154

U.S. EPA EXTENDS PUBLIC COMMENT PERIOD FOR ROCK RIVER TERRACE

The U.S. Environmental Protection Agency (EPA) Region 5 today announced it is extending the public comment period on a feasibility study of contaminated water in the Rock River Terrace area, Ogle County IL. Comments will be accepted until August 5, 1986.

A public meeting will be held on July 29, 1986 at 7 p.m. in the Byron Cultural Center, 210 W. 3rd St., Byron, to answer questions and accept comments.

The feasibility study evaluates options for protecting residents from contaminated water. Options include taking no action, providing bottled water to residents, providing in-home carbon filter units, or extending the Byron municipal water system to the area. The Illinois Environmental Protection Agency will distribute additional explanation of the options and an optional form to use for submitting comments before the July 29 public meeting.

In addition, U.S. EPA officials will be available July 9 and 10 to meet individually with Rock River Terrace area residents whose wells have been sampled. Residents who wish to discuss their sample results can make an appointment by calling Don DeBlasio, U.S. EPA 1-800-572-2515. The appointments will be held from 3 p.m. to 10 p.m. at the Rockvale Township Hall on River Road.

Copies of the complete feasibility study are available for review at the Ogle County Courthouse, Oregon and the Byron Public Library District, Byron.

# # #

IEPA NEWS

Illinois Environmental Protection Agency
2200 Churchill Road Springfield Illinois 62706 217 782 3397

FOR IMMEDIATE RELEASE

CONTACT: Cinda S. Schien
217/782-3397

Bob Casteel
217/782-6761

IEPA To Cleanup
Byron Salvage Yard

Springfield, Ill., July 24, 1986...Illinois Environmental Protection Agency (IEPA) Director Richard J. Carlson announced today that money from Governor Thompson's "Build Illinois" program will be used to cleanup the Byron Salvage Yard. "Build Illinois" provides $90 million over five years to target and further cleanup action at abandoned hazardous waste sites in Illinois. The hazardous waste site is located 12 miles southwest of Rockford in Ogle County and was used during the 1960's and early 70's as an industrial waste dump. "The decision to request State funds to cleanup the site was made when it became apparent that federal money earmarked for the multi-million dollar cleanup project would not be available. The site was named to the USEPA national priority list of Superfund sites in December, 1982," said Director Carlson.

"The IEPA and USEPA have invested much money to perform necessary remedial investigation and feasibility study work in preparation for a cleanup. Unfortunately, the federal Superfund is depleted and awaiting reauthorization by Congress," said Carlson. IEPA had issued notices to solicit bids for excavation work earlier this year, however, the USEPA money earmarked for this purpose became unavailable.

Rock River Terrace

Recent Sampling by the Illinois Department of Public Health (IDPH), the Illinois Environmental Protection Agency (IEPA) and the U.S. Environmental Protection Agency (USEPA) has shown that some drinking water wells in the Rock River Terrace have low levels of volatile organic chemicals, predominately Trichloroethylene (TCE). The highest concentration of TCE found was 44 parts per billion (ppb). A map showing the locations of the wells tested with their results is attached. The purpose of this fact sheet is to try and answer some of the questions you may have.

WHAT IS TCE?

-Trichloroethylene (TCE) is used as an industrial degreaser; a solvent for oils, paints and varnishes; a dry-cleaning agent; and an anesthetic. TCE is most often found in ground water because of spills at industrial facilities and other locations where TCE is used as a cleaning agent. The chemical is a central nervous-system depressant, as are alcoholic beverages. People exposed to high levels of TCE become sleepy, experience headaches and may develop liver or kidney damage. Animals exposed to high doses of TCE have developed cancer. Also, drinking alcoholic beverages tends to make the symptoms of TCE exposure more severe.

WHAT IS THE LONG TERM HEALTH RISK?

-TCE is considered to be a possible cancer causing agent. The long term health risk associated with TCE at low concentrations is expressed in increases in cancer rates in proportion to the population exposed. For example, if 100,000 people of average weights (70 kilograms or 154 pounds) drank 2 liters (which is equal to 2 quarts) of water every day for 70 years, and the concentrations of TCE were 28 ppb for those 70 years, then one person out of those 100,000 may develop cancer due to the TCE. This risk can be compared to smokers who have a lifetime cancer risk of 1 cancer developing due to smoking per 1,000 lifetime smokers. If any changes in health risks of the TCE are found due to new research, we will inform you as soon as possible.

WHAT IS THE SHORT TERM HEALTH RISK?

-The USEPA considers levels of TCE that exceed 200 ppb to be a short term health threat. At those levels, bottled water is provided to residents. None of the samples taken in the Rock River Terrace exceeded this level, therefore, no bottled water is to be provided by the USEPA. Continued monitoring by the USEPA of the area will determine if any short term risks are exceeded in the future.

WHAT IS A PART PER BILLION (ppb)?

-A part per billion is a description of how many units of a chemical that are present per billion total units. For example, 1 second in 32 years or one drop in a 10,000 gallon tank equals one part per billion.

WHAT IS BEING DONE TO DETERMINE THE EXTENT OF THE PROBLEM?

-A ground-water investigation is being completed to determine the source and extent of the contamination. A map of additional monitoring wells that are being or have been installed by the USEPA in the Rock River Terrace area is attached.

We hope this fact sheet may answer some of your questions, however, if you have any additional questions, please feel free to call or write any of the following people:

Mike Williams	Ogle County Health Department 106 South 5th Street Oregon, Illinois 61061	(815)732-3201
Roger Ruden	Illinois Department of Public Health P.O. Box 915 Rockford, Illinois 61105	(815)987-7511
Greg Michaud	Illinois Environmental Protection Agency Community Relations 2200 Churchill Road Springfield, Illinois 62761	(217)782-6760
Doug Yeskis	U.S. Environmental Protection Agency Region V Waste Management Division Emergency and Remedial Response Branch 230 South Dearborn Chicago, Illinois 60604	(312)886-9296 or toll free 1-800-572-2515

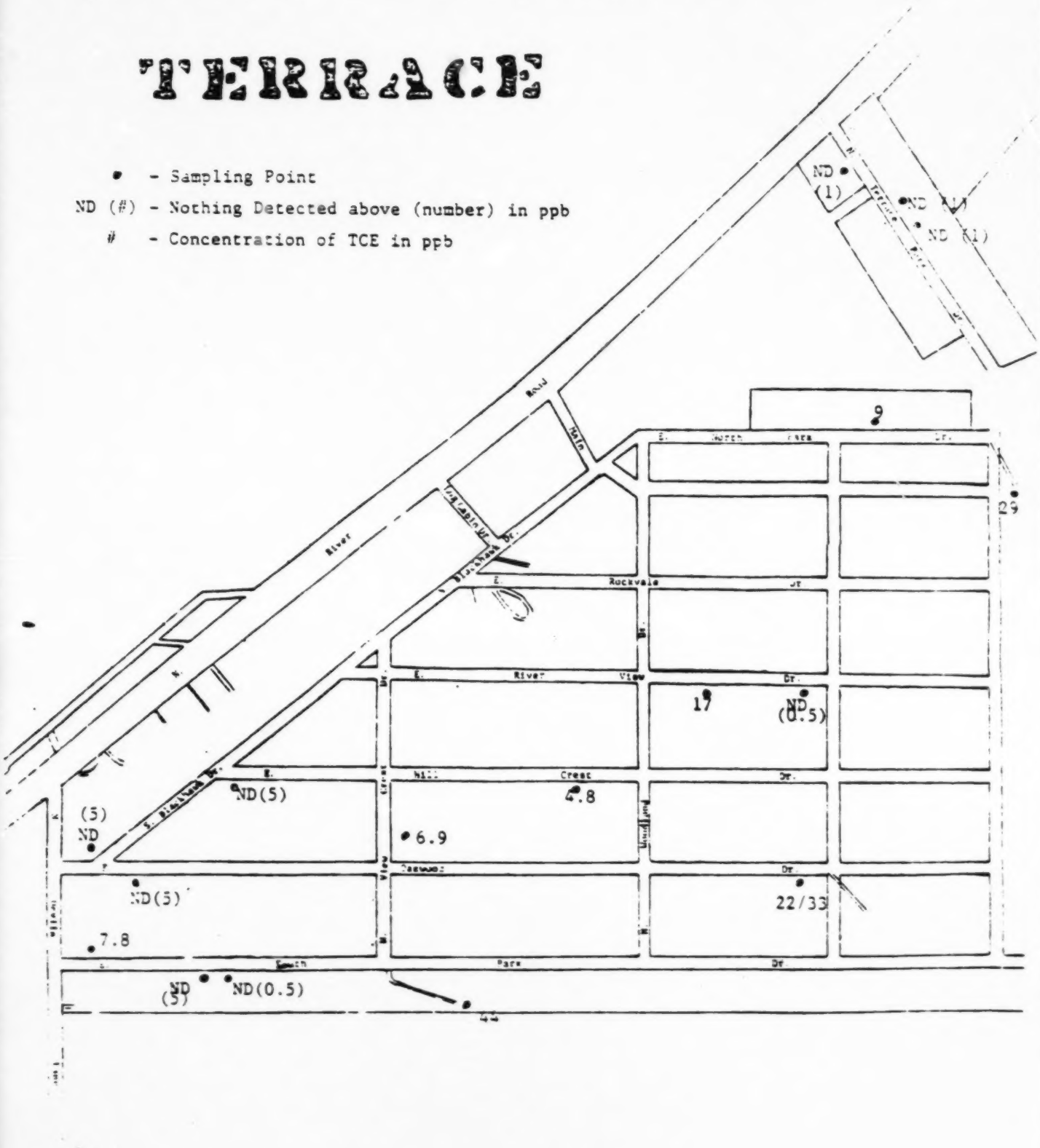
ROCK RIVER

TERRACE

• - Sampling Point

ND (#) - Nothing Detected above (number) in ppb

- Concentration of TCE in ppb



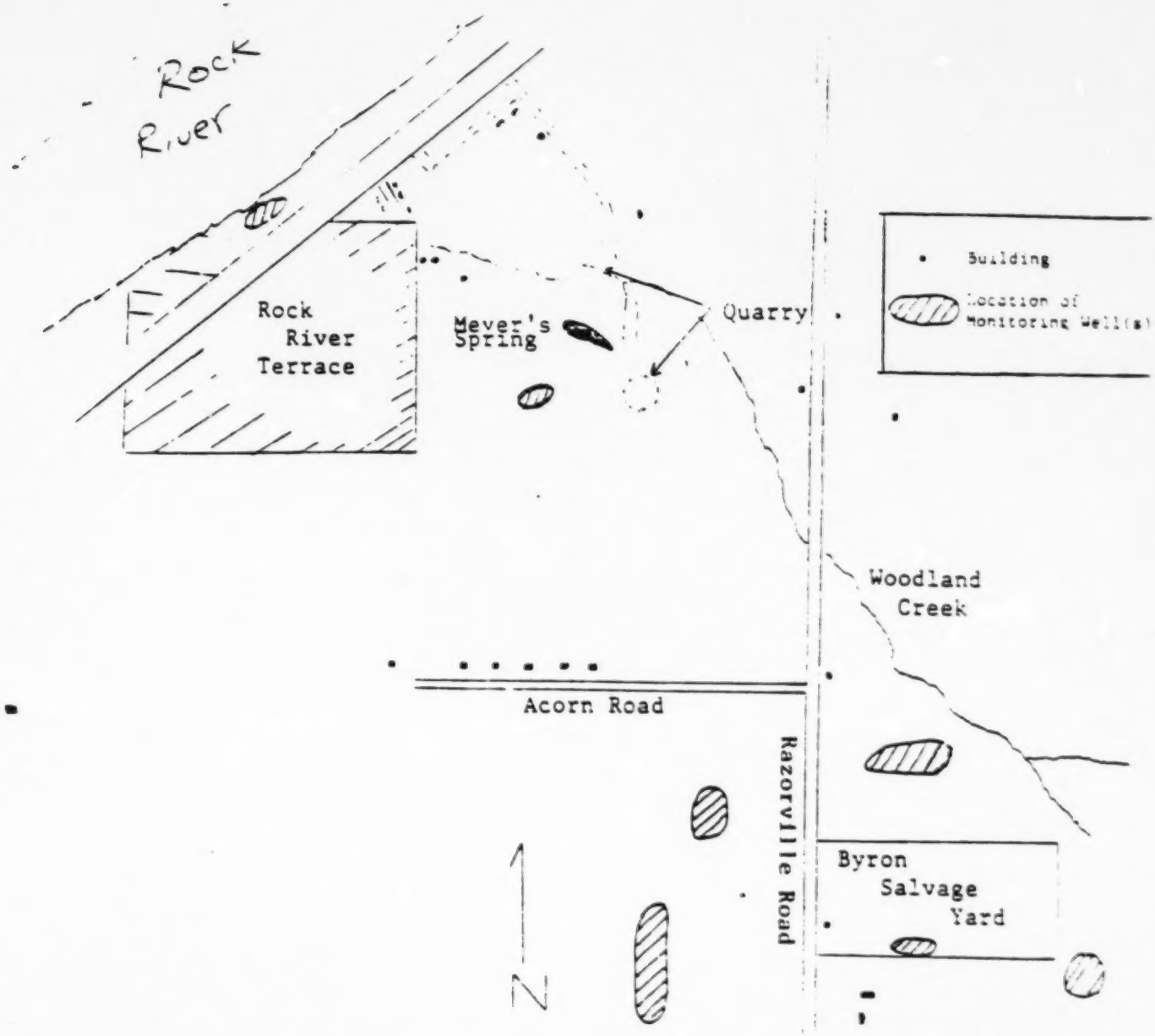


FIGURE (Location of new monitoring wells)

Illinois Environmental Protection Agency 2200 Churchill Road Springfield, Illinois
217/782-5562

July 9, 1986

Dear Rock River Resident:

This letter concerns your drinking water and a problem involving contamination found in some Rock River Terrace wells.

The Illinois Environmental Protection Agency (IEPA) is conducting a survey to determine which drinking water remedy you prefer. This survey is a result of sampling which detected volatile organic chemicals. Through this letter you have an opportunity to express your preference for one of three remedies being considered by the IEPA and the U.S. Environmental Protection Agency.

The enclosed fact sheet provides a description of each of the three proposed remedies. After reading this fact sheet, please check the box at the bottom of this letter that indicates your preference and return it to the IEPA in the self-addressed, postage paid envelope. The community's preference will be taken into consideration before the IEPA and USEPA select one of the remedies.

If you have any questions, please contact either Greg Michaud or John Hooker at our Springfield headquarters (217/782-6760).

Sincerely,

Richard J. Carlson
Director

RJC:GM:jk/1603f,12

I prefer

☐ Bottled Water

☐ Home Carbon Units

☐ Extending the Byron Public Water Supply

Rock River Terrace
Fact Sheet

DRINKING WATER REMEDIES

INTRODUCTION

Soil, sediment and groundwater at the Byron Salvage yard have been found to be contaminated with heavy metals, cyanides, and volatile organic chemicals. Groundwater flows northerly and westerly from the Salvage Yard to the Rock River. The geology of this area consists of a shallow soil cover (7 to 10 feet) overlying fractured dolomite limestone which extends to a depth of 140 to 185 feet. Most of the private drinking water wells in this area are drilled into this dolomite limestone. Beneath the limestone is the St. Peter Sandstone formation which is the deep aquifer in the region.

Because of the geology and the contamination found at the Byron Salvage Yard, the U.S. Environmental Protection Agency (USEPA) decided to investigate the possibility of groundwater contamination in Rock River Terrace. Assisted by the Illinois Department of Public Health, private drinking water wells were sampled. Volatile organic chemicals were detected in many samples. Nearly half of the wells sampled showed excessive levels of the volatile organic chemical trichloroethylene. Although these levels do not pose an immediate health hazard, a drinking water remedy is needed for the residents of Rock River Terrace.

USEPA and the Illinois Environmental Protection Agency (IEPA) are evaluating three drinking water remedies for Rock River Terrace. This fact sheet describes these three remedies. In addition, USEPA and IEPA are conducting a public meeting to discuss these remedies on Tuesday, July 29, at the Byron Cultural Center, Third and Washington Streets, beginning at 7:00 p.m.

DRINKING WATER REMEDIES

A. Bottled Water--Bottled water would be supplied to homes in Rock River Terrace. The amount of bottled water supplied to each household would be based on drinking and cooking needs. Deliveries would be made through a contract with a private vendor either once a week or once a month.

   Bottled water offers two advantages over carbon treatment units. If inorganic contamination migrates toward these wells, carbon treatment units would be ineffective in removing them from the water, however, USEPA does not anticipate inorganic contamination in the Rock River Terrace wells. Also, with bottled water there is no worry about changing filters and subsequent concerns about bacterial contamination that is associated with improper operation and maintenance of carbon treatment units.

Some families who have received bottled water at other location report an inconvenience with storing a weeks supply of bottles. Other concerns include supply. In some instances an allotment may be depleted before the next delivery. A more serious concern is the continued exposure through direct contact (i.e. bathing) and inhalation.

This remedy is viewed as only a temporary solution. It is the least expensive of the three options. Annual cost is estimated at $91,150.

B. Carbon Treatment Units--Home carbon units have been successfully used to remove volatile organic chemicals from drinking water. Recent tests indicate that home units are effective in removing virtually all of the trichloroethylene from water.

With a home unit, water from the well is pumped through the unit which contains granular activated carbon. Volatile organics are attracted to the carbon surface and, are in effect, filtered out of the water. Once the concentration of the contaminants adsorbed onto the carbon has reached a certain level, the carbon filter must be replaced. Typically, the carbon filter must be replaced annually.

A "whole house" unit can be used to treat water at each tap throughout the house. These larger units are about the size of a water heater and usually take no more than one day to install.

Carbon treatment units would be installed in permanent residences. Seasonally occupied residences would not receive these units, but would receive bottled water. It is estimated that two to three months would be needed to install carbon treatment units at approximately 100 residences in Rock River Terrace.

"Whole house" units can be installed at Rock River Terrace for $115,000. Operation and maintenance costs include an annual carbon filter replacement, residential monitoring, and project administration. These costs would add approximately $45,000 a year to the total cost for home treatment units for each year of operation.

C. Byron Public Water Supply--Water would be available to every residence in Rock River Terrace as well as residences between the City of Byron and the Terrace. Through this remedy, an 8 inch water line would be constructed to meet every user's water needs. The Byron Public Water Supply has sufficient capacity to meet additional needs.

This remedy offers a long-term solution to the drinking water problem in Rock River Terrace. It will offer continuous protection of public health irregardless of the type of contaminant that may ultimately migrate into the vicinity of Rock River Terrace. Futhermore, this remedy minimizes inconveniences to residential users by allowing normal use of the internal plumbing fixtures of each connected home.

This is the most expensive of the three remedies. It would cost approximately $900,000 to construct. Monthly water bills would cost an estimated $8 to $12.00. Hook-up costs would not be charged to homeowners in Rock River Terrace who request hook-up at the time the water line is constructed. Construction and hook-up costs would be paid from the Clean Illinois fund.

This remedy would take the longest to implement. Approximately one year would be needed to finalize arrangements with the City of Byron, and to complete design, construction, and hook-ups.

Annexation by the City of Bryon has been expressed as a concern about this remedy. City officials have indicated to IEPA that annexation would not be considered. They believe the cost to the City for fire and police protection and wastewater treatment services would meet or exceed the revenue collected through property taxes.

How can I comment?

Questions and comments should be directed to either Greg R. Michaud or John Hooker, Illinois Environmental Protection Agency, 2200 Churchill Road, Springfield, 62706 (217/782-6760), before August 5.

Margaret McCue and Ken Wallace are also available to answer questions at USEPA, Region V, 230 S. Dearborn, Chicago, 60604 (1-800-572-2515).

GRM:JH:jd/1429F/10-12

ATTACHMENT C

List of Persons Submitting Verbal and Written Comments

I. VERBAL COMMENTERS

Karen Little
R-R. #1
Bryron, IL 61010

Gerald Goodwin
315 W. 2nd
Bryron, IL 61010

Daryl Jean Messenger
218 E. Hillcrest Dr.
Byron, IL 61010

Merle Snodgrass
R.R. 3
Oregon, IL 61061

Chris MaCarty
1768 Acorn Rd.
Byron, IL 61061

Jo Schmidt
1780 Acorn Rd.
Byron, IL 61010

Charles Blanchard
207 Riverview
Byron, IL 61010

Lori Henson
123 Oakwood
Byron, IL 61010

David F. DeCicco
402 E. N. Park Dr.
Bryron, IL 61010

June Snapp
R.R. #1
Byron, IL 61010

Jim Vogl
Box 349
Byron, IL 61010

Gordon Mac Daniels
5367 River Road
Byron, IL 61010

Mike Williams
Ogle Co. Public Health Dept.
106 South Fifth St.
Oregon, IL 61061

John L. Van Zandt
5577 N. River Rd.
Byron, IL 61016

II. WRITTEN COMMENTERS

Marion Hefley
RFD H 1
Byron, IL 61010

Robert E. Blanchard
P. O. Box 720
Byron, IL 61010

Robert Henson
116 Oakwood
Byron, IL 61010

Margaret Eich
106 E. Hillcrest Dr.
Byron, IL 61010

The Nelson Family
217 E. Rockvale Rd.
Rock River Terrace
Byron, IL 61010

Mr. & Mrs Dariel Emery
217 E. Riverview
Byron, IL 61010

Mr. & Mrs. Glenn Hilton
214 E. Hillcrest Rock River Terr.
Byron, IL 61010

M. Jones
209 E. Rockvale Dr.
Byron, IL 61010

Mr. & Mrs. Charles Blanchard
P. O. Box 720
Byron, IL 61010

Otten
111 Oakwood
Byron, IL 61010

Robert Bucci
R.T.-1 Rock River Terr.
Byron, IL 61010

Kathryn A. Kuspa
5481 River Road
P. O. Box 159
Byron, IL 61010

Richard Paul
309 Riverview
Rock River Terrace
Byron, IL 61010

A. Pauline Holemeyer
Rt. 1 River Road Terrace
Byron, IL 61010

Patricia Hill
P.O. Box 692
308 Blackhawk
Rock River Terrace
Byron, IL 61010

Margaret Eich
106 E. Hillcrest Dr.
Byron, IL 61010

Albert & Vera Engel
100 Main - Rock River Terr.
R.R.-#1
Byron, IL 61010

Mr. & Mrs. Ruhard Aiherson
111 N. Terrace Park Drive
Byron, IL 61010

Steve & Shirley Molnar
602 Viewcrest
Rock River Terrace
Byron, IL 61010

Mrs. Charles Bartkus
Rock River Terr.
R. 1 Byron, IL 61010

Fred R. Hagemann
504 Viewcrest
Byron, IL 61010

Alfred Roberts
1670 E. Acorn Rd.
Byron, IL 61010

Richard J. & Betty Lesniewski
205 Hillcrest Drive
Byron, IL 61010

Garland D. Grace
202 S. Main St.
Rochelle, IL 61068

Brad & Melody Hedges
5858 Marrill Road
Byron, IL 61010

Nancy Howlett
207 E. South Park
Byron, IL 61010

James W. & Ethel F. Kilgore
306 N. Blackhawk Drive
R #1
Byron, IL 61010

Sam & Nancy Triplett
R.R. #1 Terrace Dr.
Byron, IL 61010

Kendall Myers
606 South Sixth St.
Oregon, IL 61061

Mr. & Mrs. R. E. Soresi
115 E.S. Park Dr.
Byron, IL 61010

John & Colleen VanZandt
5577 N. River Rd.
Byron, IL 61010

L. Nelson
217 E. Rockvale Rd.
Rock River Terrace
Byron, IL 61010

Mr. & Mrs. Ronald A. Chrzanowski
308 E. River View
Rock River Terrace
Byron, IL 61010

James H. Vogl
417 E. North Park Drive
Byron, IL 61010

Mary E. Maxson
303 E. North Park Drive
Byron, IL 61010

Roy V. Bauer
5545 N. River Rd.
Byron, IL 61010

Roberta McKiski
Rock River Terrace
R.R. #1
Byron, IL 61010

Steve & Dublin Molnar
303 N. Devils Ln.
Rock River Terrace
Byron, IL 61010

Andrew Olson
R.R. #1 Box 215
Rock River Terrace
Byron, IL 61010

Merle Snodgrass, Supervisor
Rockvale Township
R. R. No. 3
Oregon, IL 61061

Willard & Karen Little
602 E. Blackhawk Drive
Rock River Terrace

ROD/NDD/EDD CHECKLIST

Site Name Byron Salvage Yard

Site Location Byron, Illinois

☒ ROD ☐ NDD ☐ EDD

Activity IRM (with off Site Disposal) ____

OPERABLE UNIT X

COMPLETE REMEDY ____

This ROD/NDD/EDD checklist has been developed to facilitate the preparation and review of RODs, NDDs and EDDs. This checklist does not purport that all elements of the checklist must, as a matter of law or policy, be complied with before a ROD, NDD or EDD may be finalized. All negative responses to elements of the checklist should, however, be addressed.

(Place reviewers initials on appropriate line)

1. Compliance with §104 (a)

a. Release or substantial threat of release	✓ YES	___ NO
b. Of a hazardous substance; (or)	✓ YES	___ NO CJH
c. Of a pollutant or contaminant	✓ YES	___ NO CJH
d. Into the environment	✓ YES	___ NO CJH
e. Release or threat of release may present an imminent and substantial danger to public health and welfare;	✓ YES	___ NO CJH
f. Have PRP's been given opportunity to conduct the remedy (date of notice letter(s)_____) (Explain negative response)	___ YES	✓ NO
g. PRP(s) failed to undertake required action	___ YES	✓ NO

Notice letters will be sent after ROD is approved and before work is started on the project.

2. RI/FS completion

a. RI/FS conducted by:		
(i) Responsible party	___ YES	✓ NO CJH
(ii) State	___ YES	✓ NO CJH
(iii) US EPA	✓ YES	___ NO CJH
(iv) Other Federal Agency(s)(_____)	___ YES	✓ NO CJH

3. Remedial Action consistent with the National Contingency Plan (NCP) (300.68 (g) through (i))

a. Alternatives have been developed, screened and evaluated in terms of:

(i) Cost — ✓ YES ___ NO

(ii) Environmental impact — ✓ YES ___ NO

(iii) Technical feasibility — ✓ YES ___ NO

(iv) Alternative technology & land disposal — ✓ YES ___ NO

b. No action alternative evaluated — ✓ YES ___ NO

c. Extent of remedy (which may include operation and maintenace) is consistent with agency policy — ✓ YES ___ NO

(i) Existing standards used (other environmental loss) — ✓ YES ___ NO

(ii) Exisiting standards not attained (explain) — ___ YES ___ NO (N/A)

(iii) Has the cost effective remedy been selected — ✓ YES ___ NO

d. Are specific cleanup standards available? — ___ YES ___ NO N/A

4. Remedial Action is consistent with §101 (24) — ✓ YES ___ NO

a. If action is an operable unit (or IRM) is it consistent with a permanent remedy; — ✓ YES ___ NO

b. The action prevents or minimizes the release(s) of hazardous substances (pollutants or contaminants); — ___ YES ✓ NO

c. The action is one of those listed at §101 (24) — ✓ YES ___ NO

d. If the action requires off-site storage, treatment, destruction, secure disposition, or transport of hazardous substants (pollutants or contaminants), is the action:

(i) More cost-effective than other actions; or — ___ YES ___ NO N/A

(ii) Will action create new capacity to manage in compliance with RCRA, Subtitle C; or — ___ YES ___ NO N/A

(iii) Necessary to protect public health, welfare or environment from risk created by further exposure to continued presence of the substances — ___YES ___NO N/A

5. Is proposed remedy consistent with other environmental laws? — ✓YES ___NO

6. Responsiveness Summary addresses public concern; — ✓YES ___NO

   a. Summary of comments received has been prepared including:

      (i) Comments by public — ✓YES ___NO

      (ii) Comments by special interest groups — ___YES ___NO ✓NA

      (iii) Comments by responsible parties — ___YES ___NO ___NA

   b. Response to all comments (public and PRP) is provided consistent with ROD guidance and is attached — ✓YES ___NO

7. Appropriate Agencies have commented;

   a. State — in Responsiveness Summary — ___YES ___NO N/A

   b. HO — ✓YES ___NO

   c. CDC — ___YES ___NO ✓NA

   d. FEMA — ___YES ___NO ✓NA

   e. Other (Identify) — ___YES ___NO N/A

8. State involvement consitent with § 104 (c).

   a. State concurs with proposed actions — ___YES ✓NO

   b. Has State agreed to assurances:

      (i) State will provide all future maintenance — ___YES ✓NO ___NA

      (ii) A RCRA approved site is available for off-site disposal of substances — ✓YES ___NO ✓NA

      (iii) State will pay 10 percent (or at least 50 percent) of remedial cost — ___YES ✓NO ✓NA

State refuses to assume liability for the operation and maintenance requirements. Therefore, the proposed alternate action, will not concur with ~~state~~ U.S. EPA recommendation N.C.R.